

EXPRESS ENGINEERING SOLUTIONS



# BURIED PIPELINE STRESS ANALYSIS



No one can de-code the code  
like us...!



91 9921229232 / +91 7500507040



training@express-engg.com



# INDEX



CLICK THE TOPICS FOR DETAILS 



Course Content



About Us



Know The Trainer



Who Should Do  
This Course?



Design Services



Training Services



Corporate Training



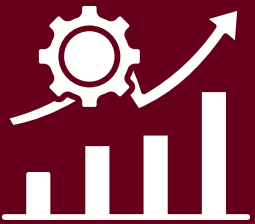
# INDEX



CLICK THE TOPICS FOR DETAILS 



Corporate  
Customers



Our Track Record



About The  
Training Platform



Online VS Offline  
Training



Our Other  
Courses



Contact Us



BACK TO  
INDEX



# Course Content

1

Pipeline Stress Analysis

(32 hrs)

| Lecture No | Topics<br>CLICK ON TOPICS FOR DETAILS                  | Hours |
|------------|--------------------------------------------------------|-------|
| 1          | Introduction to Pipeline Stress Analysis               | 1     |
| 2          | Important concepts of Stress Analysis: Part 1          | 2     |
| 3          | Important concepts of Stress Analysis: Part 2          | 1     |
| 4          | ASME B31.3 Code Stress Equations: Part 1               | 1     |
| 5          | ASME B31.4 & ASME B31.8 Equations: Part 2              | 2     |
| 6          | Basic Load Cases                                       | 2     |
| 7          | Introduction to CAESAR II & Basic Modelling Techniques | 3     |
| 8          | How to read Pipeline Documents?                        | 2     |
| 9          | Pipeline Modelling Techniques using CAESAR II          | 2     |
| 10         | Pipeline Analysis and Results interpretation           | 1     |



# Course Content

## 1 Pipeline Stress Analysis

| Lecture No | Topics<br>CLICK ON TOPICS FOR DETAILS       | Hours |
|------------|---------------------------------------------|-------|
| 11         | Understanding Soil-Pipe Interaction         | 3     |
| 12         | Pipeline Manual Calculations                | 3     |
| 13         | Stress Intensification Factor & Flexibility | 1     |
| 14         | Flange Leakage Analysis                     | 2     |
| 15         | Seismic Analysis of Buried Pipeline         | 2     |
| 16         | Advance Pipeline Calculations               | 2     |
| 17         | Pipeline Hazards & Mitigations              | 2     |



# Course Content

1

## Introduction to Pipeline Stress Analysis

(1 hrs)

This Module introduces you with various aspects of the Pipeline Stress Analysis. It starts with comparison of Piping and Pipeline which identifies the main difference between both. The approach towards Pipeline Stress Analysis is different and must be well understood.

This MODULE covers-

- Pipelines and its failures.
- Difference between Piping & Pipeline stress analysis.
- Pipeline fittings.
- Introduction of Pipe -Soil interaction.
- Restrained Unrestrained sections.
- Water hammer effects on Pipeline.
- Introduction to Seismic wave propagation.
- Pipeline buckling , soil liquefaction etc.



BACK TO  
INDEX



BACK TO  
CONTENT



# Course Content

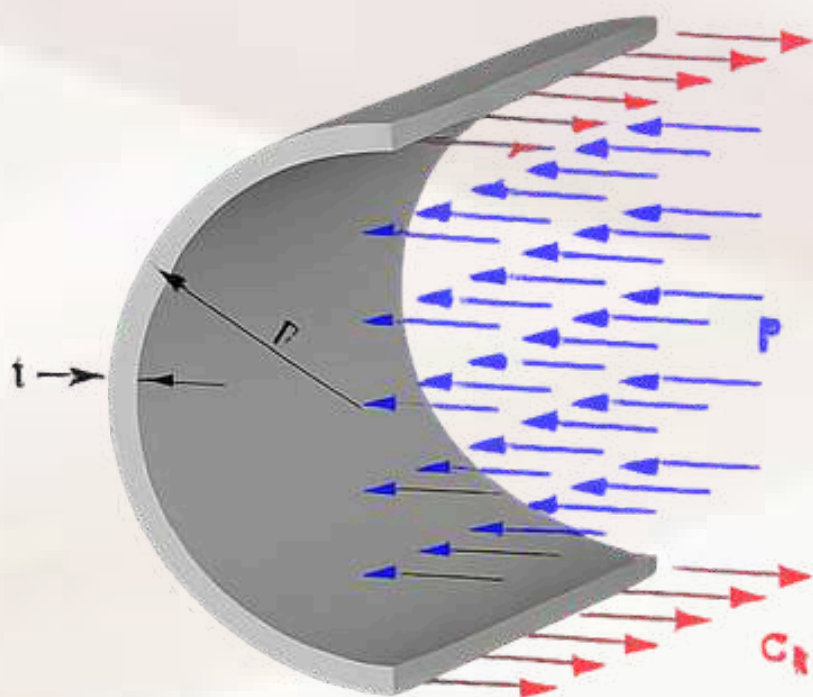
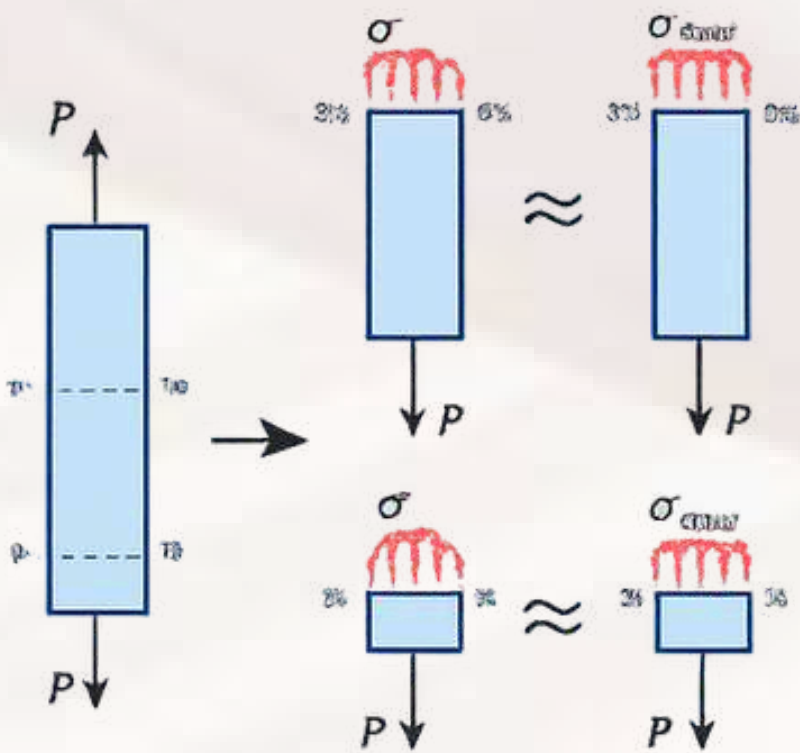
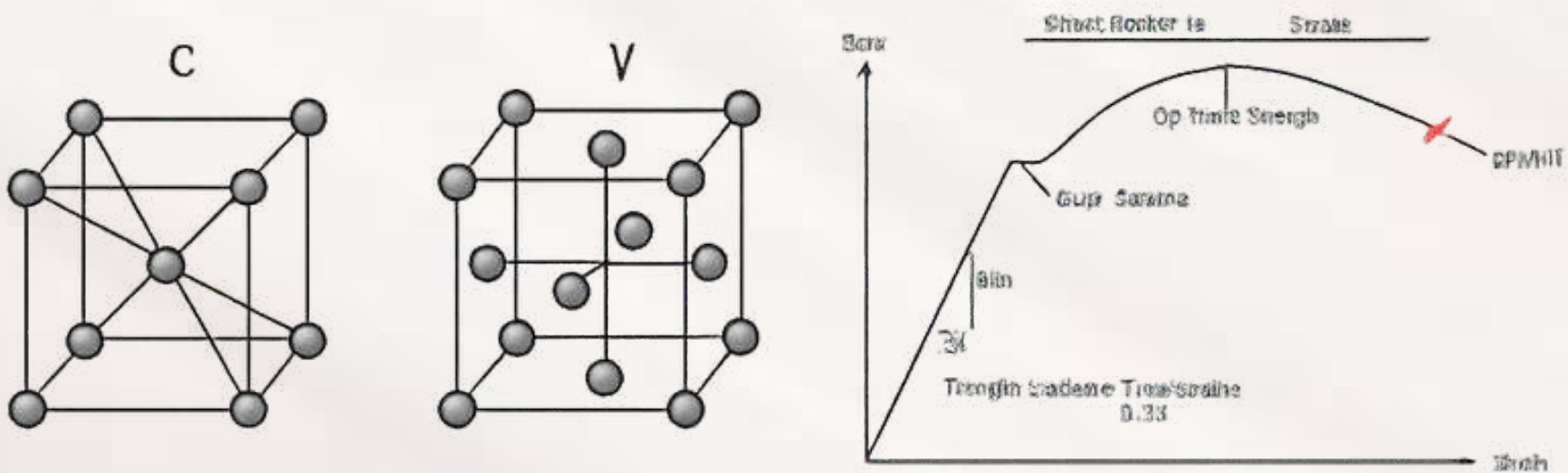
2

Important Concepts Of Stress Analysis Part - 1

(2 hrs)

This MODULE is useful for all engineers who wish to make their basics clear in Pipe stress analysis. If you wish to 'Experience' the 'Stress Concept' and not only wish to understand it mathematically or in bookish language and the most importantly if you possess patience and passion for the subject then this MODULE is for you. This MODULE is divided in 3 nos. of videos. In these MODULEs we will discuss.

- The concepts of Displacement Field, Stress & Strain Field.
- Modulus of Elasticity and its significances.
- What is 'Tensor'? stress as a Tensor.
- Longitudinal stress, Radial stress, circumferential (Hoop) stress.
- Moment of Inertia.
- Stress stain curve and practical approach to look towards it.



# Course Content

3

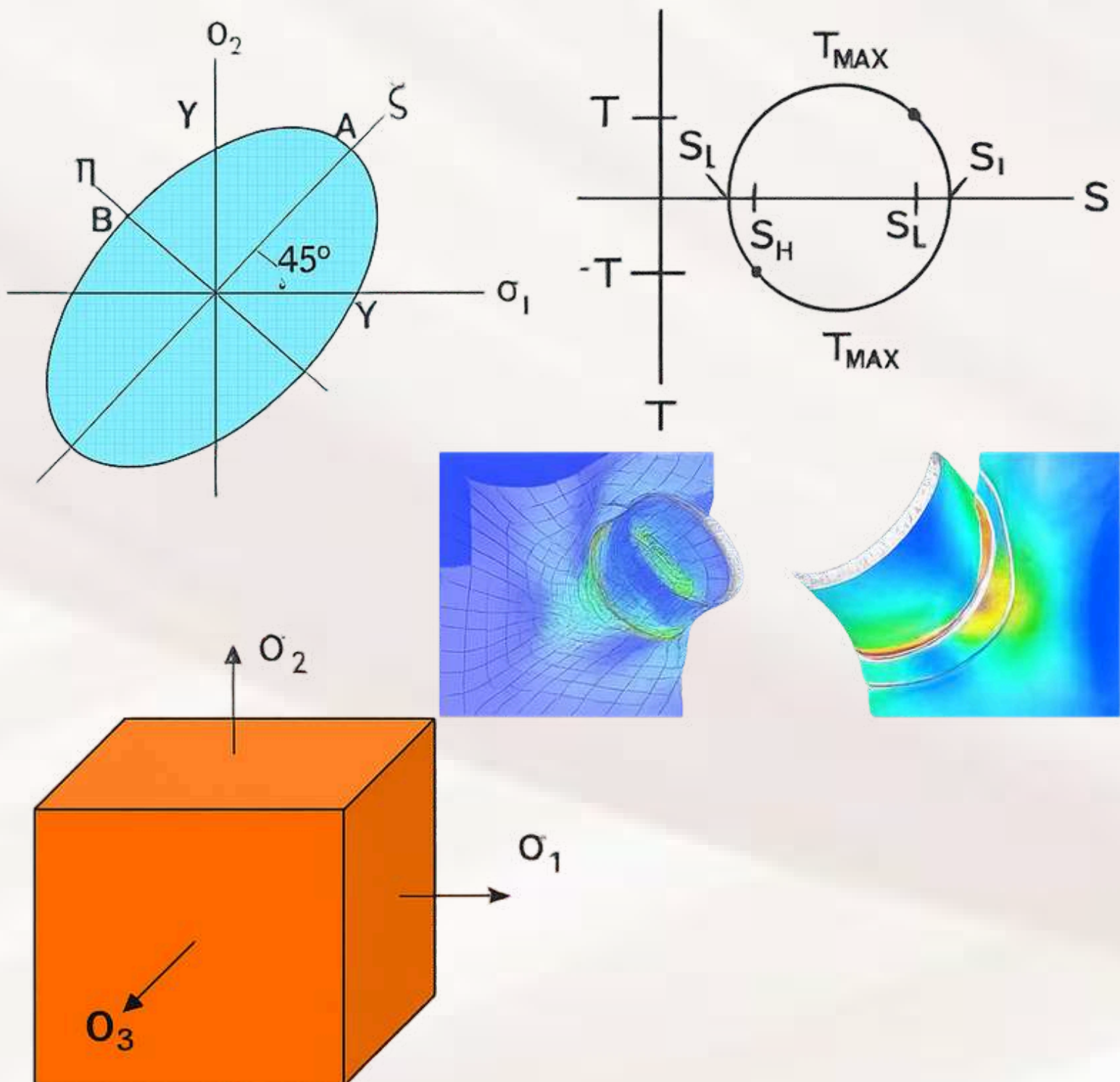
## Important Concepts Of Stress Analysis Part - 2

(1 hrs)

This MODULE is continuation of MODULE-1 and hence applicable for all Mechanical, production engineers irrespective of their experience. This MODULE is extremely recommended for the under graduates, fresh graduates, piping engineers, engineers working at site and stress engineers. We go little deeper into.

- 3D state of stress.
- Mohr's circle.
- Theories of Failures:
- Maximum Shear Stress Theory.
- Von mises theory.
- Importance of stress analysis.

Also, a simple problem is solved by hand calculations to calculate the stresses in the system. The intention of this Course is to make the participant to look at the problem without taking help of software.



BACK TO  
INDEX



BACK TO  
CONTENT



# Course Content

4

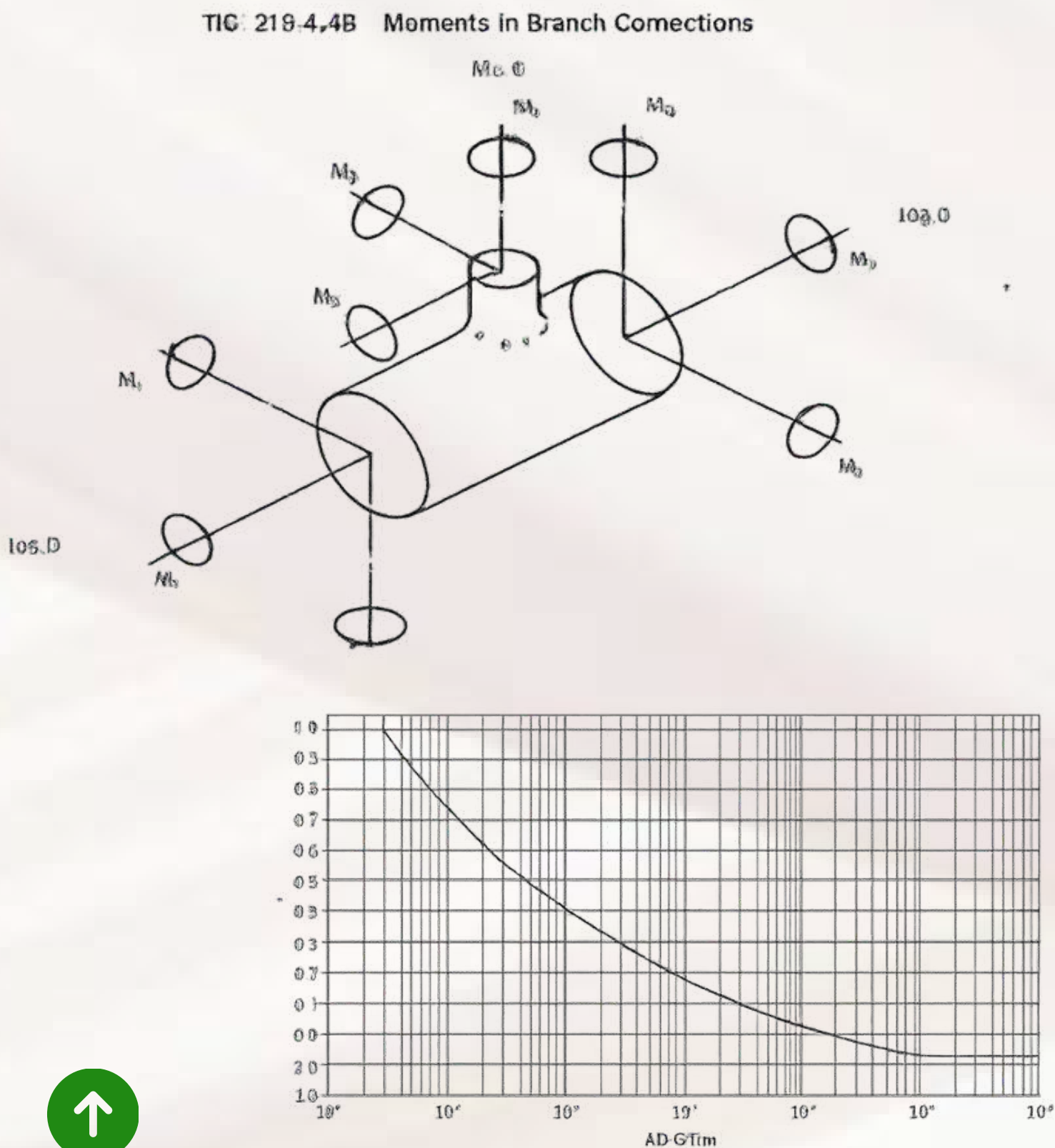
## ASME B31.3 Code Stress Equations Part - 1

(1 hrs)

A highly recommended MODULE for all stress and piping / Pipeline engineers. Most of the Pipeline Engineers may argue why a Pipeline engineer needs to know ASME B31.3 as this code is for process Piping. But one must know that the Unrestrained portion of Pipeline (specifically above ground piping post Barred Tee) has equations in ASME B31.4 or B31.8 very much similar or same to ASME B31.3. Further ASME B31.3 is more elaborative on unrestrained piping and hence we have included this module in Pipeline course as well.

This Course talks about-

- Primary stresses and their characteristics.
- Secondary stresses and their characteristics.
- Occasional stresses and their characteristics.
- Which type of stress is more critical.
- Mode of failure of each type.



BACK TO  
INDEX



BACK TO  
CONTENT



# Course Content

5

ASME B31.3 Code Stress Equations:

(2 hrs)

Probably this the most important module of this course which talks in detail about the equations of ASME B31.4 and B31.8. This module discusses the equations of stress calculations in detail, compares both the codes.

The code equations in detail-

- Restrained / Unrestrained Pipeline concept.
- Pipeline thickness calculations.
- External pressure check for pipeline.
- Poisson's shrinkage, pressure elongation, thermal expansion.
- Why equations are written in a particular way.
- What is the significance of + and - sign.
- Scope and Exclusions of ASME B31.4 and B31.8.
- Code equations.

## Pipeline Transportation Systems for Liquids and Slurries

ASME Code for Pressure Piping, B31

## Gas Transmission and Distribution Piping Systems

ASME Code for Pressure Piping, B31



BACK TO  
INDEX



BACK TO  
CONTENT



# Course Content

6

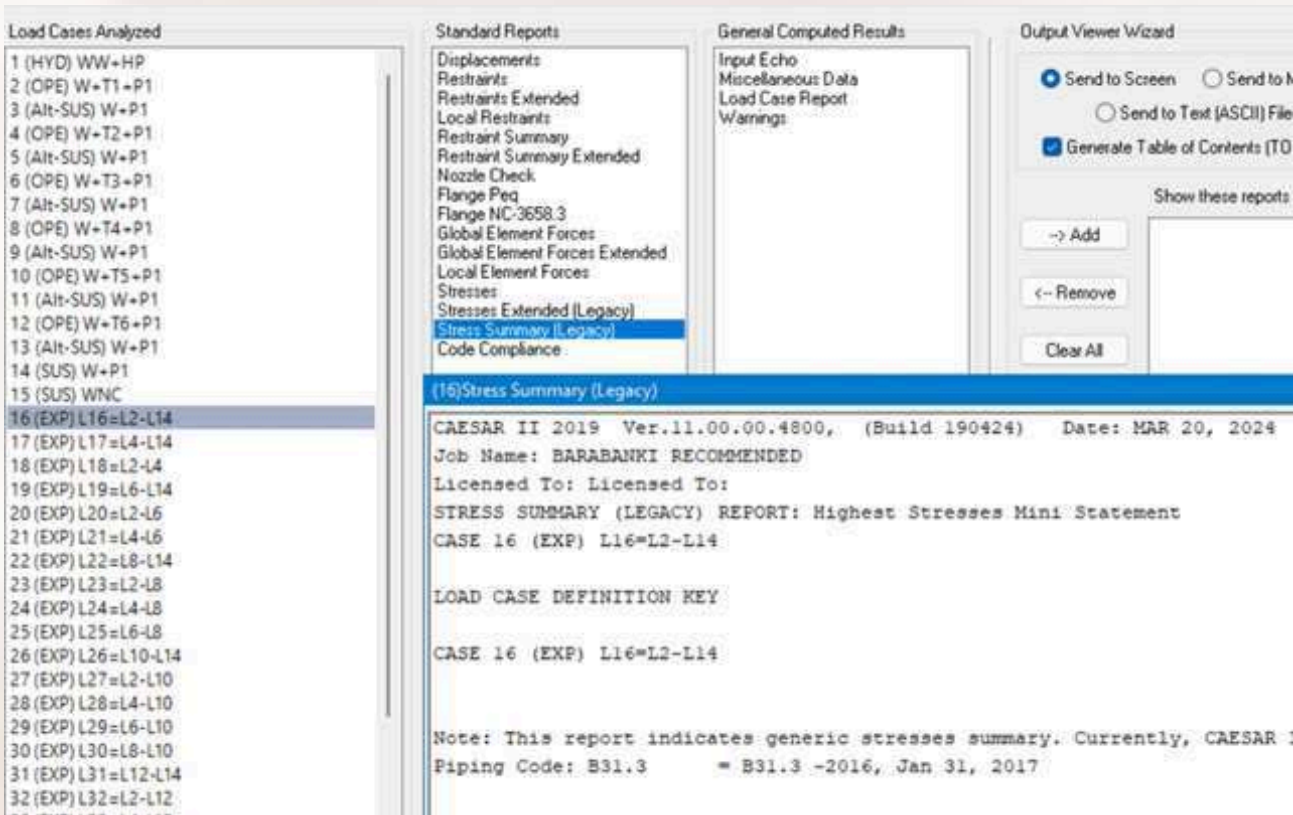
Basic Load Cases

(2 hrs)

Defining the load cases is very important in pipe stress analysis as it is a relation between the software and the code requirements. Defining right load cases and understanding the mathematics behind the load cases is very essential. Most of the time it has been observed that engineers do copy the load cases or try to learn them by heart. This Course talks about-

- How to write load cases their nomenclature.
- There are various methods of combination such as scalar algebraic.
- Also, it tells about the answers of many critical questions like ‘why a particular load case is written in a particular way’?
- How to write the load cases using Caesar II software.
- What are the different types of load cases?
- How the allowable stresses are understood by the software when you call a particular load case by a particular name.
- How to write the load cases when a spring is introduced in the system.
- How to write load cases when force present in the system.

This model also relates the load cases with the code equations. This Course is extremely useful to the engineers with experience less than 5 years for those who wish to understand the mathematics and ‘Why’ behind the load cases.





BACK TO INDEX



BACK TO CONTENT





# Course Content

7

Introduction to CAESAR II & Basic Modelling Techniques

(3 hrs)

Today's world is software driven. Engineers are no exception to it. It has been observed that engineers cannot give the solution without having software with them. Then it becomes essential to know the advantages and the limitations of the tool we are using. Hence knowing the stress analysis software and its advantages / limitations, the way it has been programmed etc. is very important. CAESAR II is one of the finest stress analysis software using beam element.

In this Course we will learn-

- Basic elements true In this Course we will learn.
- Hand calculation of thermal force and stresses. Evaluating them with scissor to answer.
- How software works.
- Important features of configuration setup.
- What is ‘degree of freedom?
- Introduction to modelling commands.
- Node and connecting Node, its application.
- How to apply wind and earthquake loads.
- Advantages and limitations of the software.
- Difference in in pipe element and rigid element.



# Course Content

8

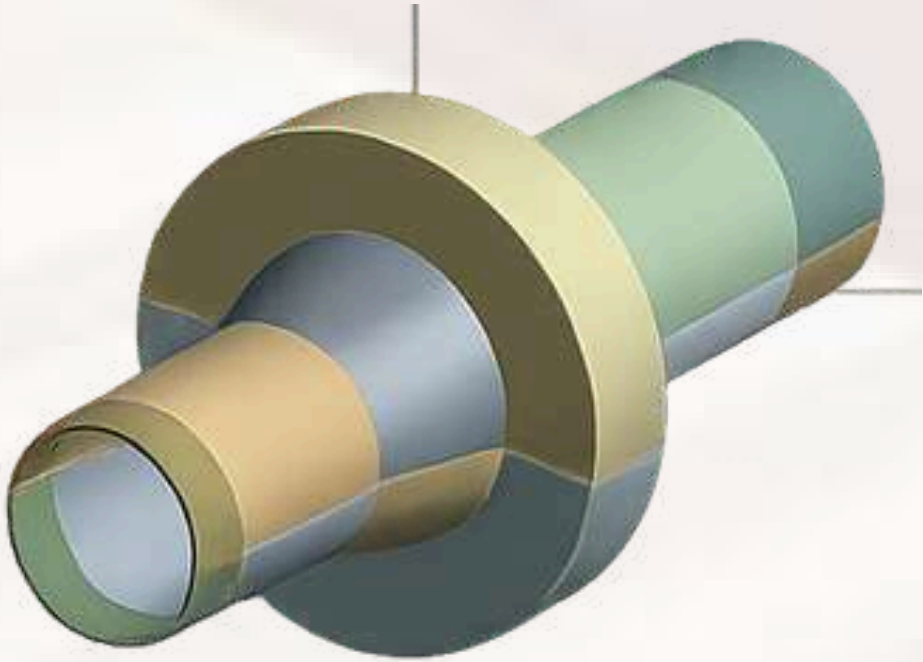
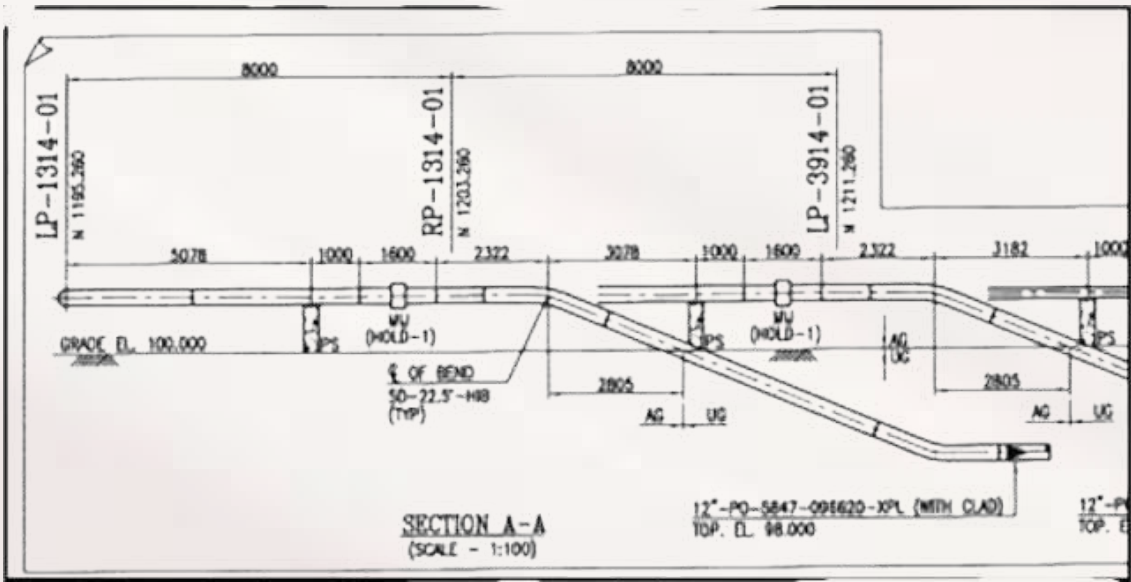
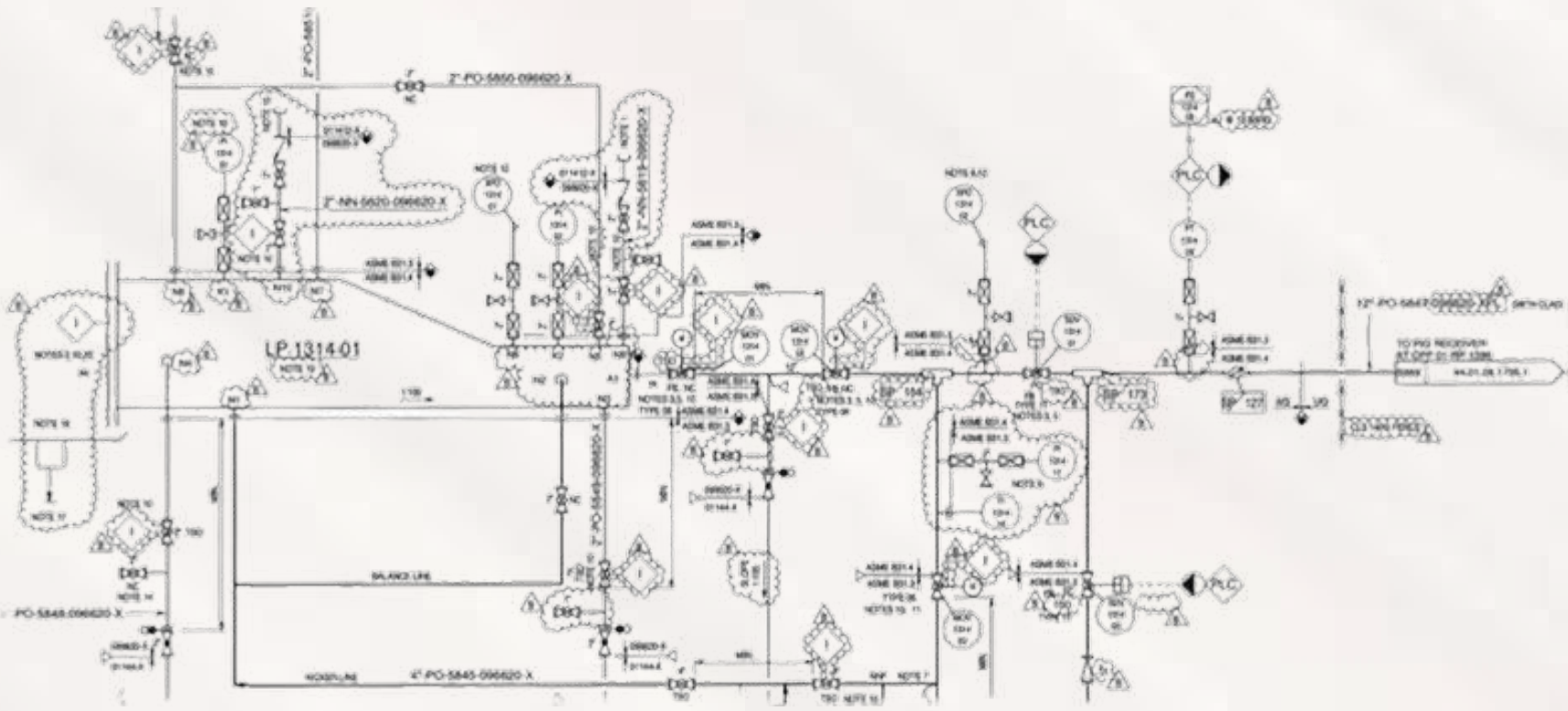
## How to read Pipeline Documents?

(2 hrs)

This module explains in detail how to read the Pipeline related documents and interpret them to create the CAESAR II model quickly.

In this MODULE we will learn-

- Key points in Pipeline Design Basis.
- Alignment sheets.
- Pipeline P & ID.
- Station Approach Drawing.
- Monolithic Insulation Joint.



BACK TO  
INDEX



BACK TO  
CONTENT



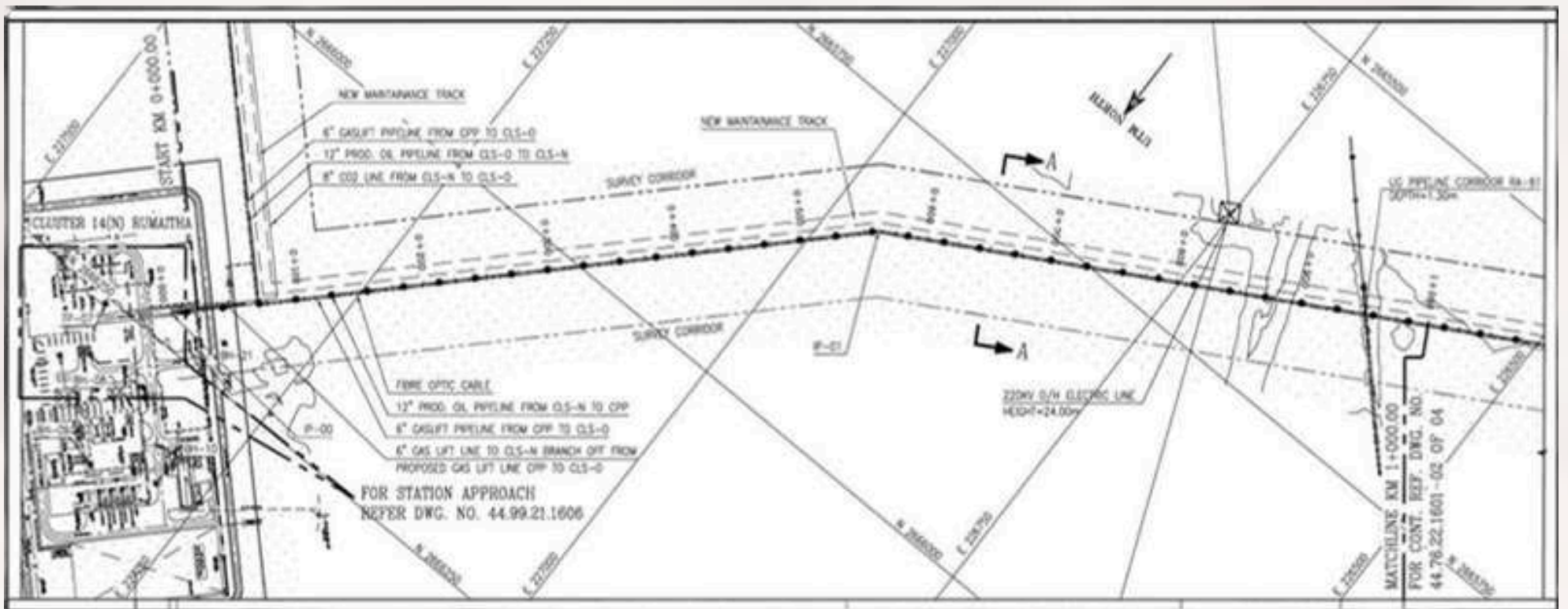


# PIPELINE STRESS ANALYSIS

# Pipeline Modelling Techniques using CAESAR II

(2 hrs)

| 12" PROD. OIL PIPELINE FROM CLS-N TO CPP |            |             |            |             |
|------------------------------------------|------------|-------------|------------|-------------|
| IP                                       | EASTING    | NORTHING    | NEW-X      | NEW-Z       |
| IP-00                                    | 227356.68  | 2666228.352 | -396532    | -396532     |
| IP-01                                    | 226960.148 | 2665831.82  | -567385    | -317392     |
| IP-02                                    | 226392.763 | 2665514.428 | 9278       | -16586      |
| IP-02A                                   | 226402.041 | 2665497.842 | 40421      | -41533      |
| IP-02B                                   | 226442.462 | 2665456.309 | 328743     | -587676     |
| IP-03                                    | 226771.205 | 2664868.633 | -134214    | -773646     |
| IP-04                                    | 226636.991 | 2664094.987 | 465588     | -365159     |
| IP-05                                    | 227102.579 | 2663729.828 | 29922      | 22460       |
| IP-06                                    | 227132.501 | 2663752.288 | 18460      | -14479      |
| IP-07                                    | 227150.961 | 2663737.809 | 131292     | -34676      |
| IP-08                                    | 227282.253 | 2663703.133 | 63286      | -28021      |
| IP-09                                    | 227345.539 | 2663675.112 | 53501      | -37572      |
| IP-10                                    | 227399.04  | 2663637.54  | 77168      | -77168      |
| IP-11                                    | 227476.208 | 2663560.372 | -227476208 | -2663560372 |





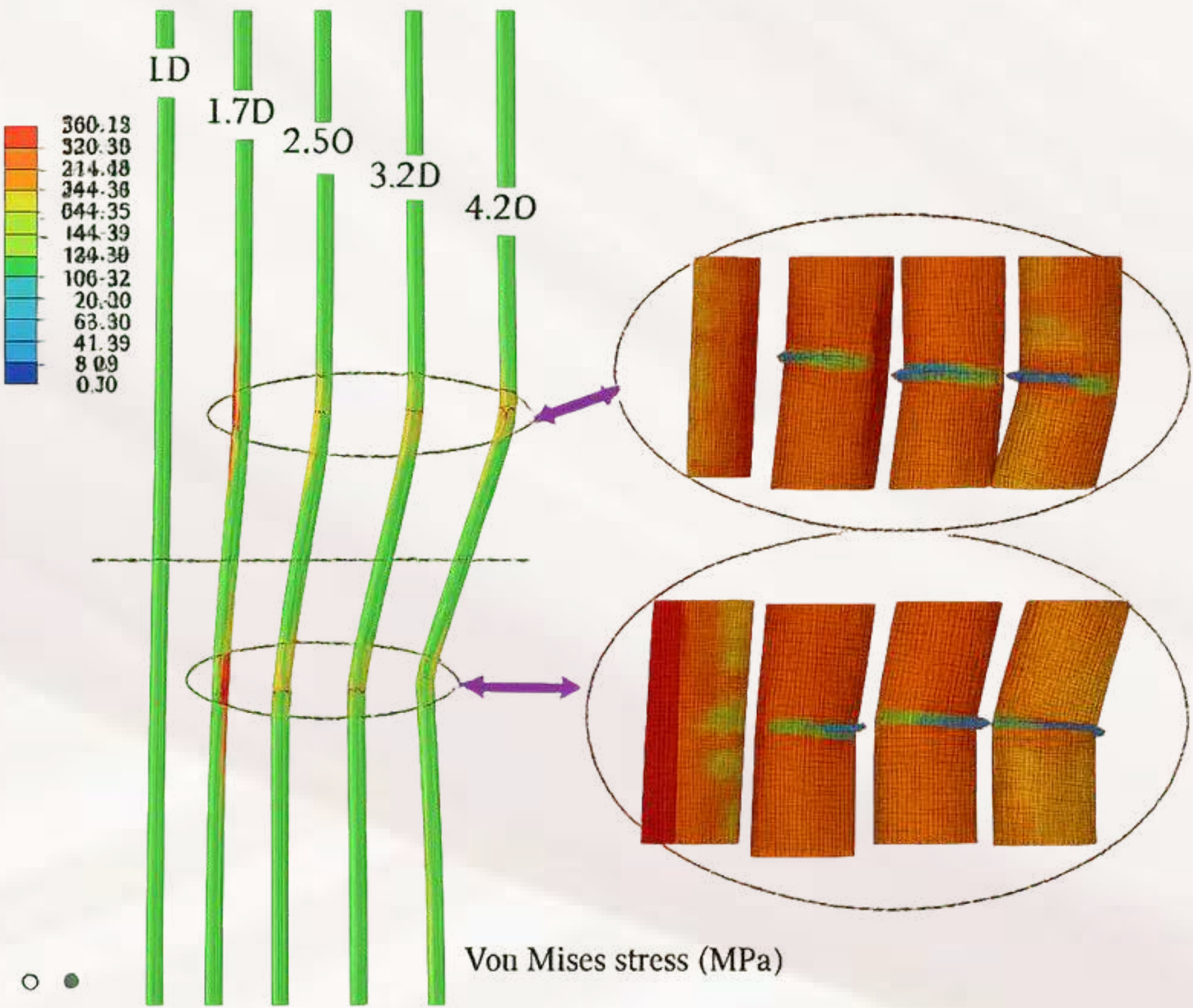
# Course Content

10

Pipeline Analysis and Results interpretation

(1 hrs)

After completing MODULE number no. 1 to 9 successfully now we have reached to a stage where we should start doing experiments. For a stress engineer it is the most essential to keep on trying, doing experiments, make changes into his /her model and look at the results. At the initial stage this 'trial and error' method is very effective to learn the stress analysis. At this stage engineer should start predicting the results of small model and verify it with CAESAR II software. The answers what we get teaches us a lot. This MODULE has been designed keeping in mind that the listener is new to the software.



BACK TO INDEX



BACK TO CONTENT





# Course Content

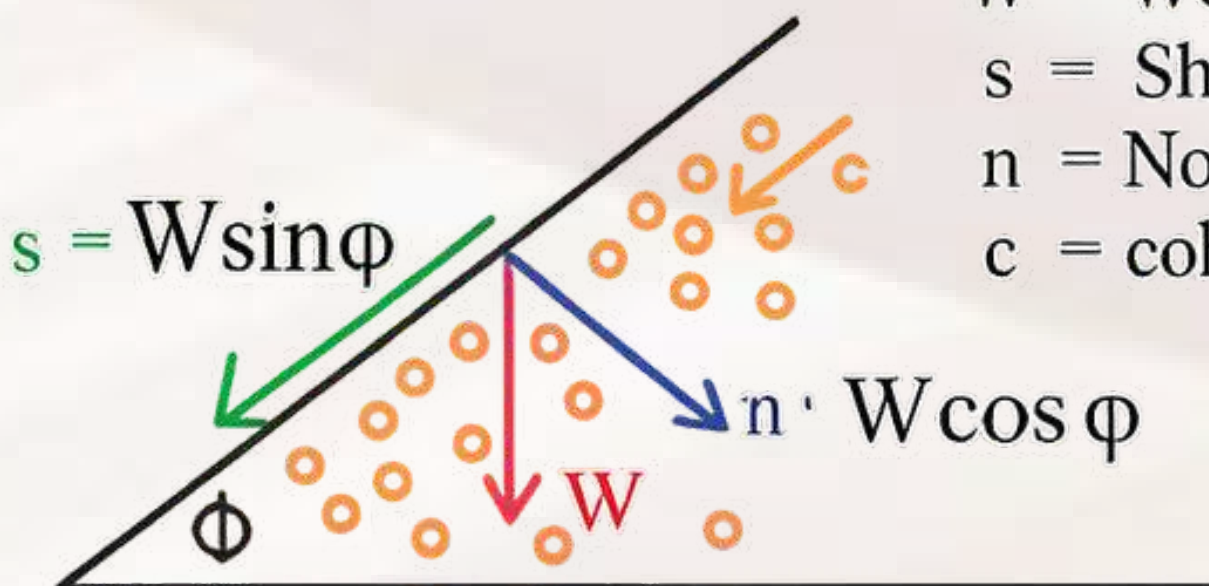
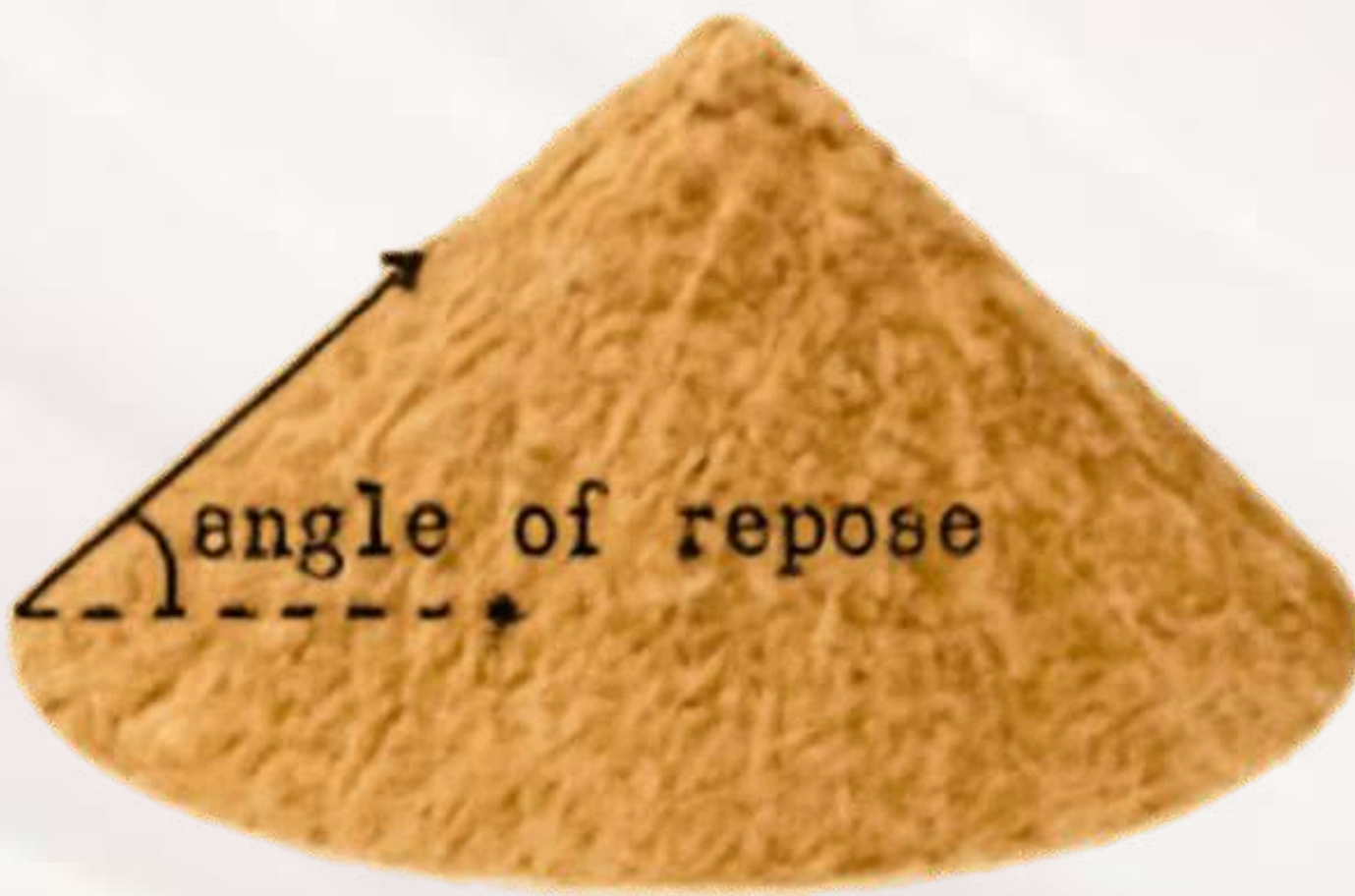
11

## Understanding Soil-Pipe Interaction

(3 hrs)

Most of the Stress Engineers either hold Mechanical engineering or sometimes Chemical engineering degree. Both these streams do not deal with Soil properties in their curriculum. Hence, when it comes to analyse buried Pipeline many of the terms and concepts such as Soil types, cohesive pressure, friction angle etc are not known to the Stress Engineer. Buried module of the software is also known only to the extended of 'Data Entry'. In this module we cover.

- Overview of buried Pipe behaviour.
- Soil properties and their significance.
- CAESAR II buried module- Basic method and ALA method.
- Comparison between above two methods.
- Discussion on Technical paper.



W = Weight of soil  
s = Sliding Force  
n = Normal Force  
c = cohesion



BACK TO  
INDEX



BACK TO  
CONTENT



# Course Content

12

Pipeline Manual Calculations

(3 hrs)

Our trainer strongly believes that when any stress analysis problem comes in front, the solution of that problem should get first formed in your mind. Then one should model it accurately into the software and then look at the results. If the results are as per your predictions then you are on the right track and if not then you can correct your understanding by looking at the results given by the software. In this journey it is very important to know how our ancestors or the previous generation of the engineers used to perform the analysis when they did not have such a sophisticated software.

In this MODULE we are going to learn-

- Pipeline Thickness Calculations as per ASME B31.4.
- Pipeline Thickness Calculations as per ASME B31.8.
- Pipeline thickness calculations for External Pressure.
- Buoyancy calculations.
- Anchor Force Calculations.
- Virtual anchor length calculation.
- Support Span Calculations.

| SPAN IS SELECTED MINIMUM OF FOLLOWING                                                                                                                  |                                                                                                                                                                                                             |                                                                                                                                          |
|--------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|
| BASED ON LIMITING STRESS                                                                                                                               | BASED ON ALLOWABLE DEFLECTION                                                                                                                                                                               | BASED ON NATURAL FREQUENCY                                                                                                               |
| $L_s = \text{SQRT} \left( \frac{[Sh / 2]}{[Z / 1.375 W]} \right)$                                                                                      | $L_d = (\Delta E I / 18 W)^{0.25}$                                                                                                                                                                          | $f_n = 1 / 2\Pi (g / \Delta)^{0.5}$                                                                                                      |
| $L_s$ = Span based on stress, ft<br><br>$Sh$ = Allowable Stress, PSI<br><br>$Z$ = Section Modulus, in <sup>3</sup><br><br>$W$ = weight of Pipe, lb/ ft | $L_d$ = Span based on deflection, ft<br><br>$\Delta$ = allowable deflection, in<br><br>$E$ = Modulus of Elasticity, PSI<br><br>$I$ = Moment of Inertia, in <sup>4</sup><br><br>$W$ = weight of Pipe, lb/ ft | $f_n$ = <u>Frequency</u> , Hz<br><br>$g$ = gravitational acceleration, 386 in/ sec <sup>2</sup><br><br>$\Delta$ = maximum deflection, in |



# Course Content

13

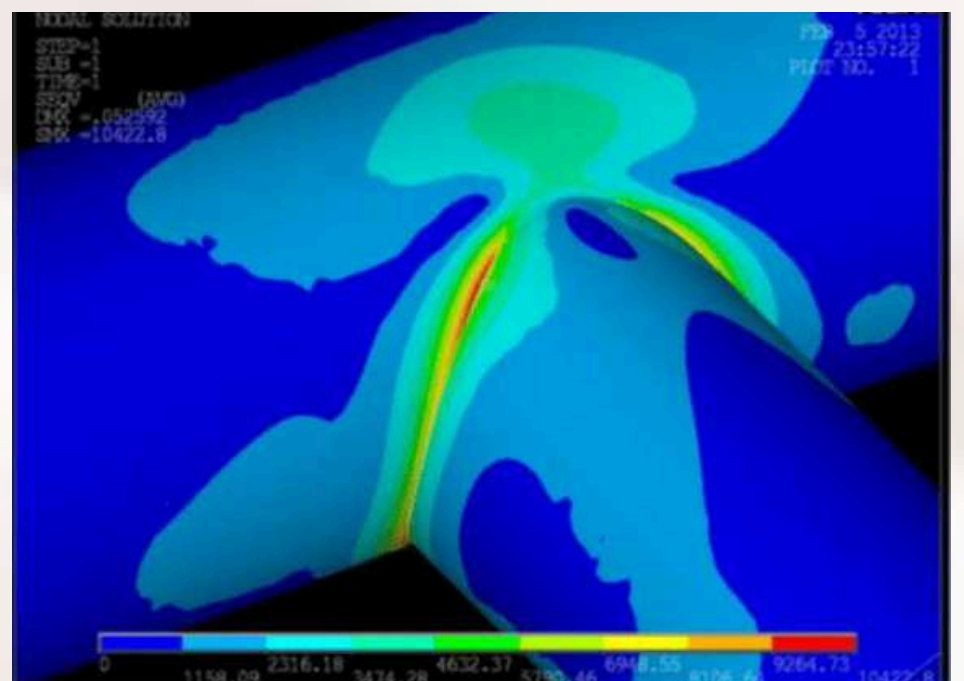
## Stress Intensification Factor & Flexibility

(1 hrs)

Stress Intensification Factor also known as SIF is a topic of research and probably the least understood subject in Pipe Stress Analysis. We do not claim to be master of this subject. But definitely would like share the information we have in this.

In this MODULE we are going to learn-

- What is flexibility factor?
- What is SIF?
- How to calculate it using appendix D of ASME B31.3.
- The limitations of ASME B31.3 appendix D.
- Markl's work in SIF.
- An overview of Finite Analysis method to get SIF.
- The myths and truths about SIF.
- How SIF is used in stress equations.
- Mitre bends and its SIF.
- Should we consider SIF in Sustained & occasion cases?
- How flexibility of the bend changes with its connection to flanges.
- Discussing technical paper authored by the faculty.



BACK TO  
INDEX



BACK TO  
CONTENT





# Course Content

14

## Flange Leakage Analysis

(2 hrs)

Flange leakage is one of the critical safety aspects. Even though it is practically impossible to give guarantee that flange would not leak (as it depends on various other factors as well), there are industry approved practices to ensure Flange Leak would not happen.

In this Course we will learn-

- Pressure equivalent method & manual calculations.
- NC 3658 method manual calculations.
- Verifying CAESAR II results against hand calculations.
- Understanding the basics of why flange leak.
- ASME Section VIII method input in CAESAR II.
- ASME section VIII method manual calculations.
- Reference documents from flange leakage analysis.
- Supporting to avoid Flange leakage.



BACK TO  
INDEX



BACK TO  
CONTENT



# Course Content

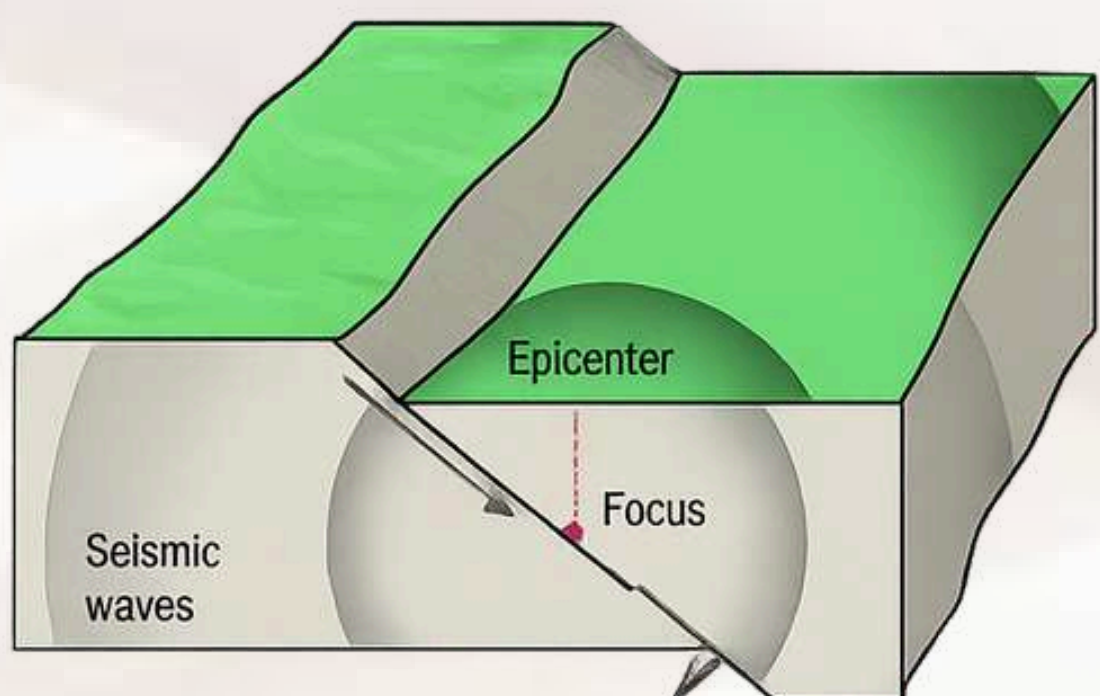
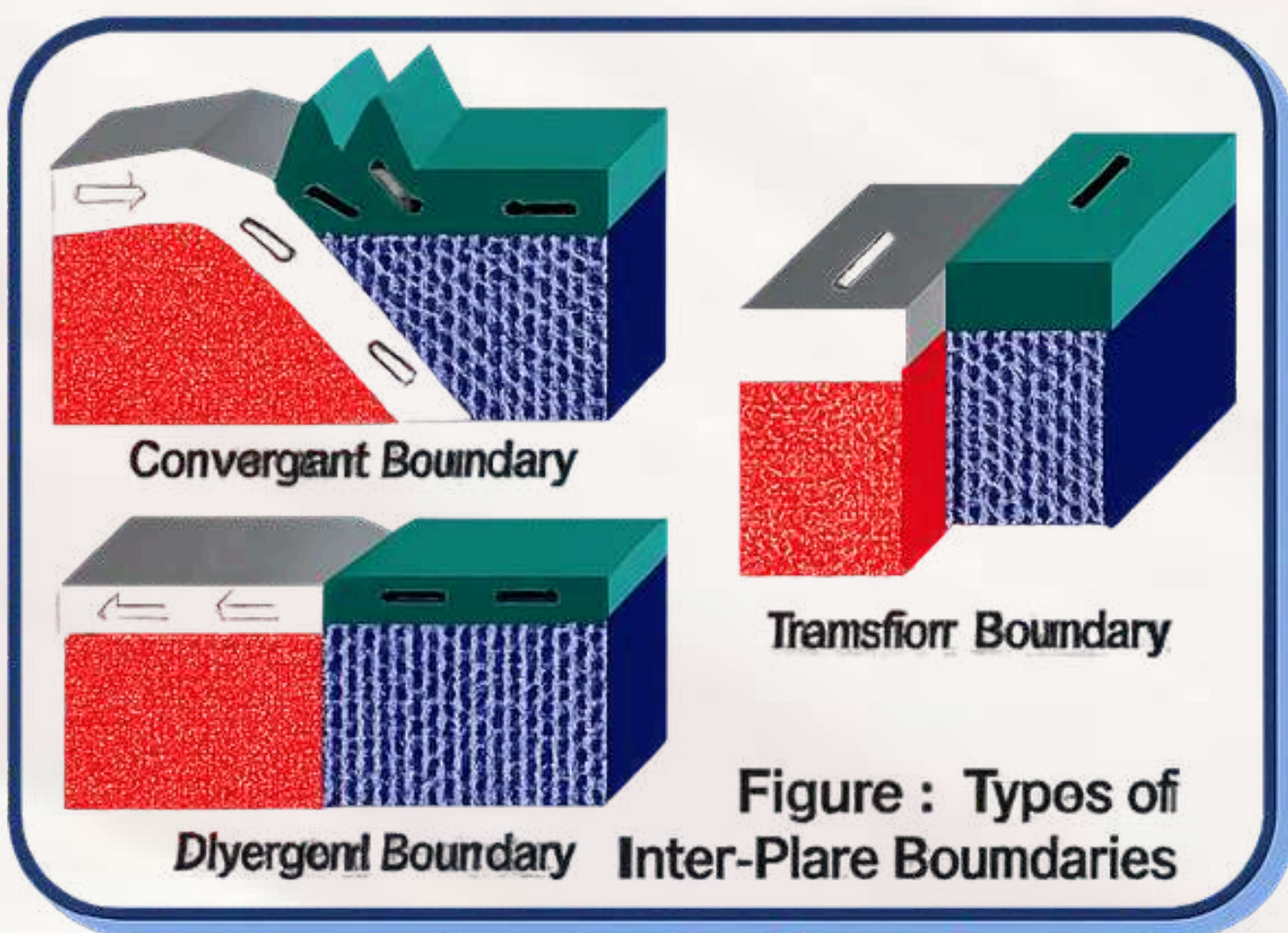
15

## Seismic Analysis of Buried Pipeline

(2 hrs)

Like Soil properties, Mechanical engineering also does not deal with Earthquake or Seismic event. Predominantly we take the data from Civil engineers such as base shear or seismic acceleration (co-efficient) in terms of Gravity acceleration 'g'. However, when the cross country pipelines traveling through seismic zone we need to perform 'Strain Based analysis' due to Seismic Wave propagation. This module covers.

- Limitations of Software to perform Seismic analysis for Buried pipeline.
- Basics about Earthquake.
- Types of Seismic Waves.
- Boundary separation of tectonic plates.
- Faults types.
- Seismic wave propagation calculation.



BACK TO  
INDEX



BACK TO  
CONTENT

# Course Content

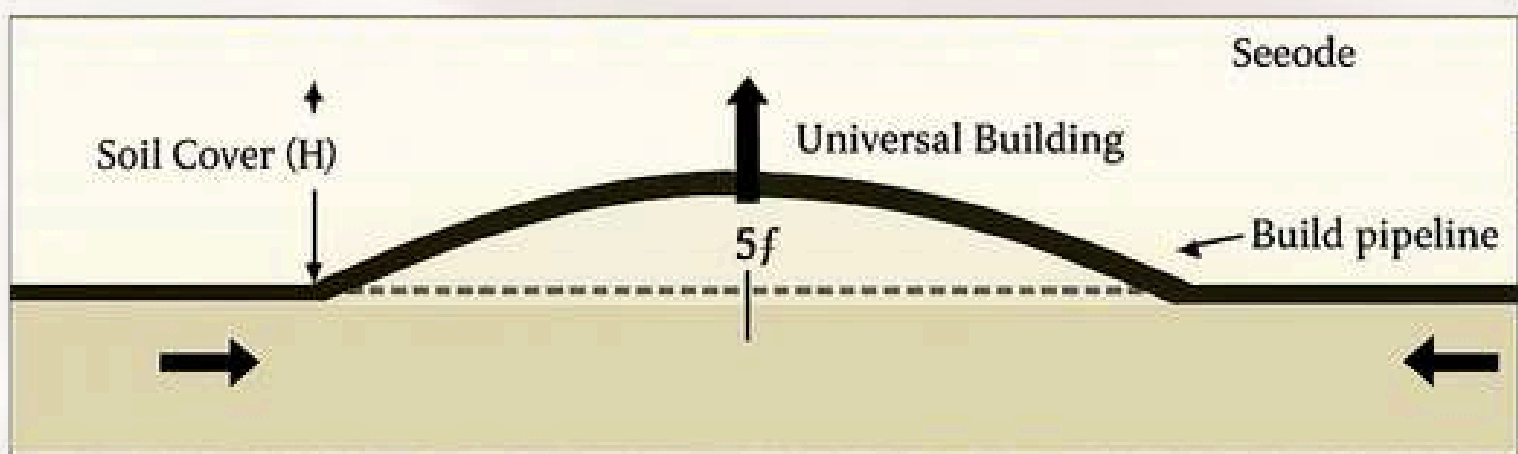
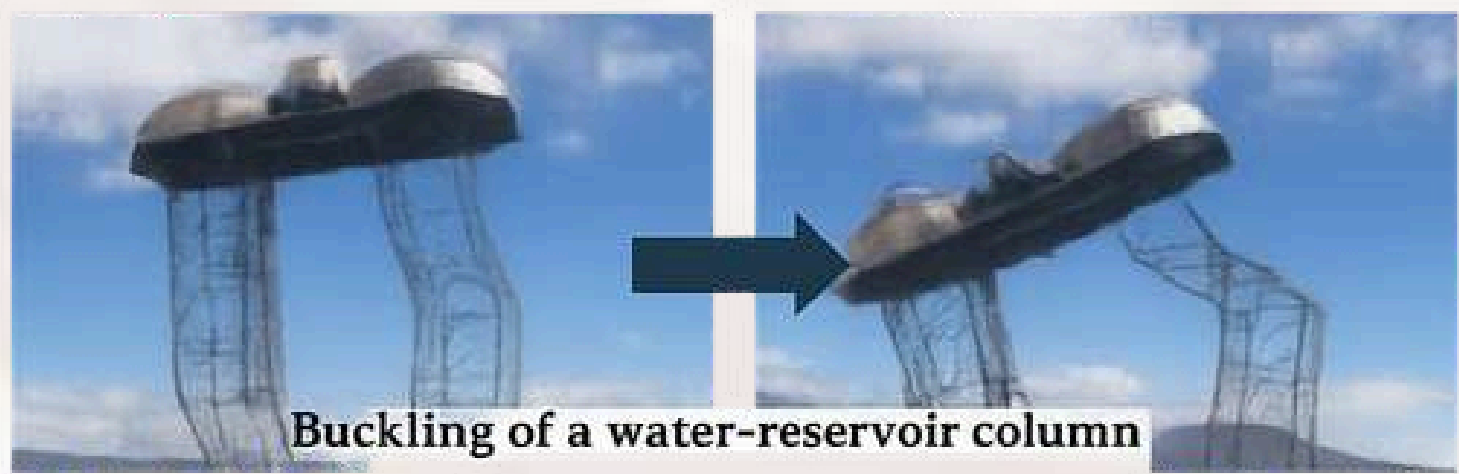
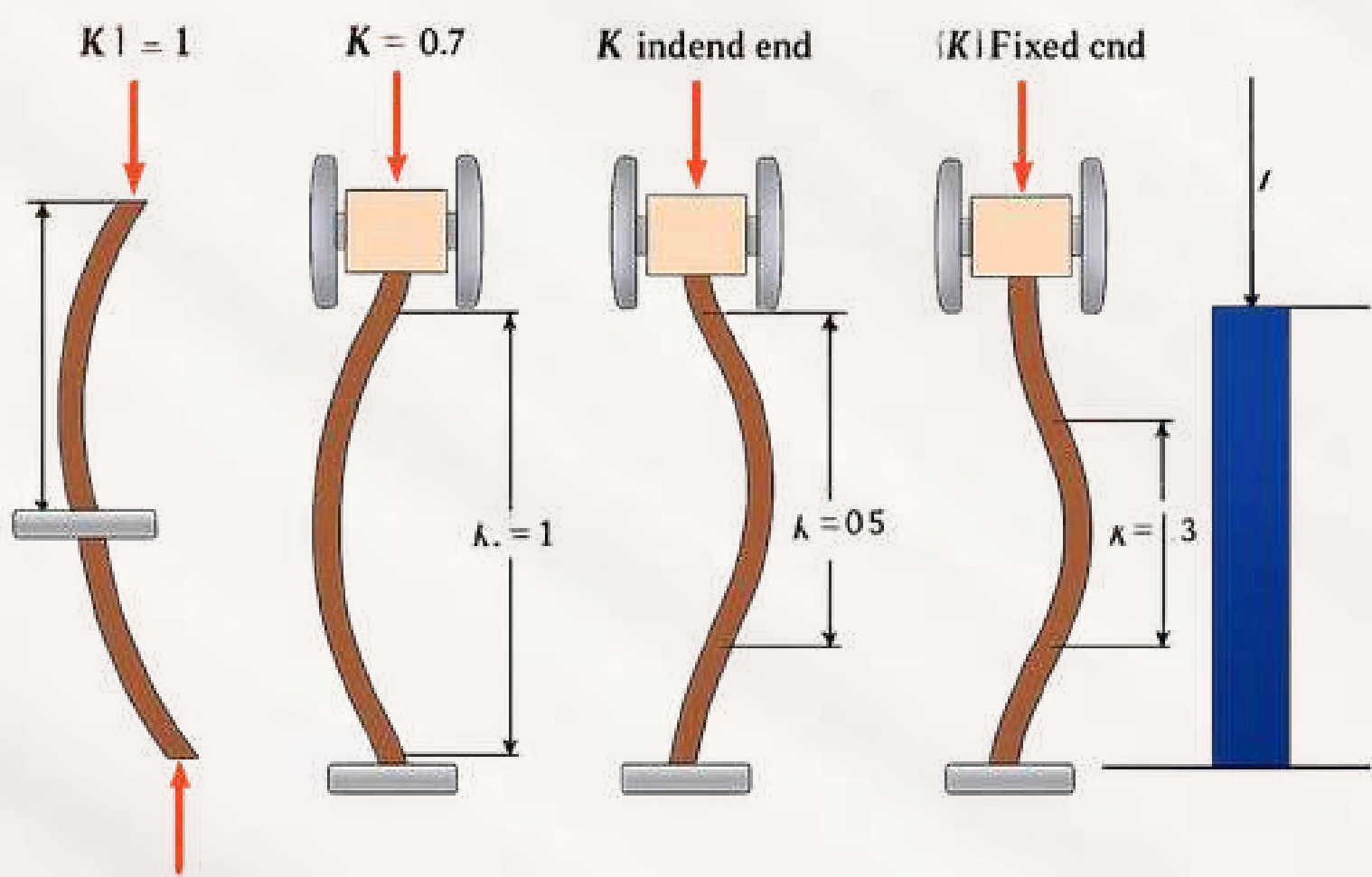
16

Advance Pipeline Calculations

(2 hrs)

In addition to manual calculations covered above, pipeline engineer also have to perform few Advance calculations due to limitations of the beam element software and to avoid FEA Pipeline penetration resistance calculations Upheaval buckling calculations methods due to high cost and time. In this module we cover:

- Pipeline penetration resistance calculations.
- Upheaval buckling calculations.
- Crossing (Road / Rail) calculations.





# Course Content

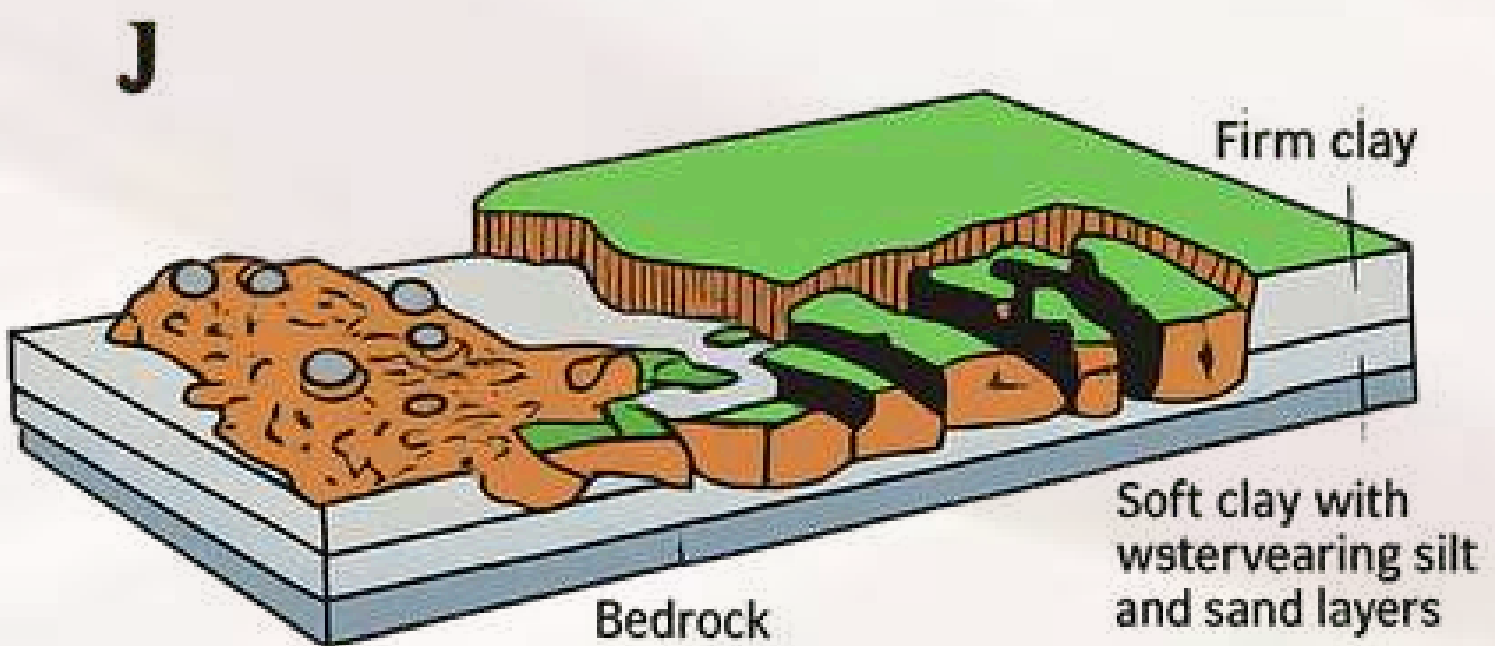
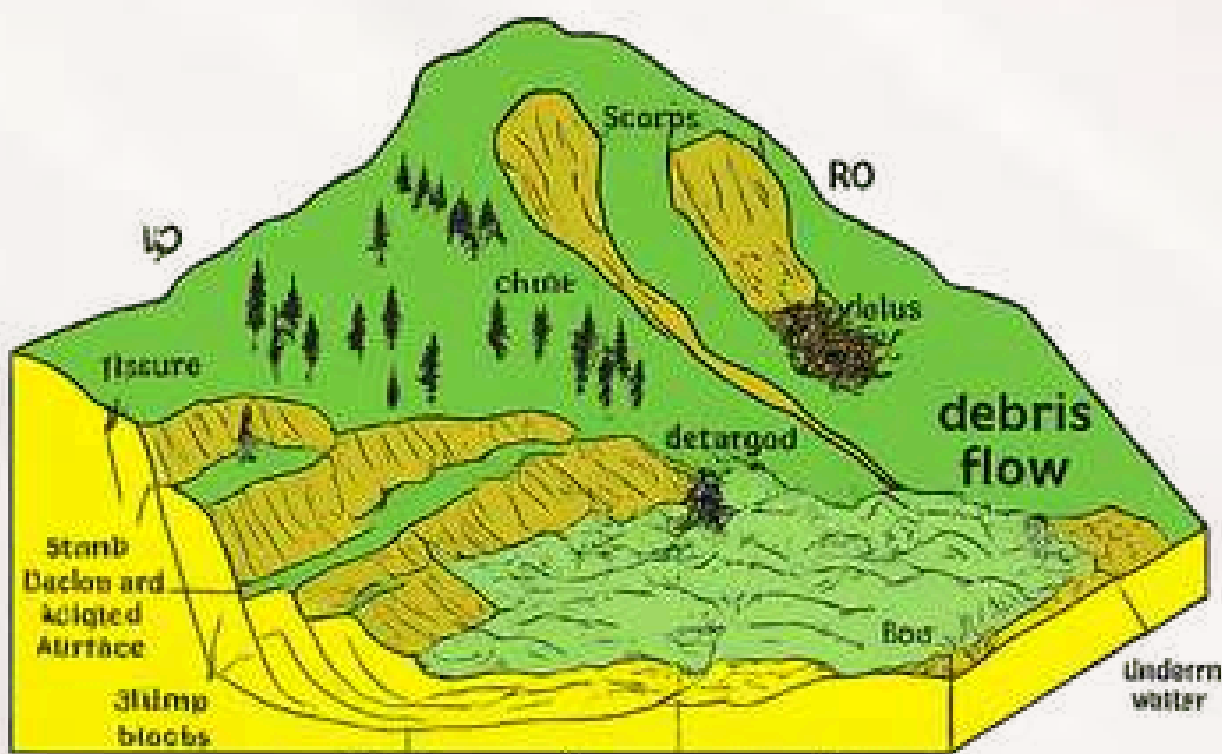
17

Pipeline Hazards & Mitigations

(2 hrs)

Beyond the Pipeline Stress Analysis and Calculations, a good Pipeline engineer should also be aware about the Hazards which Pipeline might experience based on terrain through which Right of Way passes. Though Geo-specialist / Civil engineers deals with these Hazards, this module discusses following Geo-Hazards.

- What is Geo-Hazard?
- Landslides.
- Soil Liquefaction.
- Lateral Spread.
- Fault / Fissures.
- Blasting.
- Water Hammer.
- Karst, Sink Holes.



## Lateral spread



[BACK TO INDEX](#)



[BACK TO CONTENT](#)

# About Us



## Why Choose Us

With vast domain experience, highly capable & equipped Engineering Team we are specialized in providing the most professional Engineering services with fast turn around time. We also help businesses meet their goals with our cutting edge Engineering & Training services.



## Mission

Our mission is to deliver world-class engineering solutions with simplicity, precision, and speed, while empowering professionals through comprehensive training that meets global industry standards.



## Vision

To create a future where our cutting-edge expertise in engineering solutions and professional training empowers both clients and the industry, making us an indispensable partner in their success.



## Our Core Values

### 1) INNOVATION

We consistently challenge the status quo by exploring new ideas & technologies to deliver creative, cutting-edge solutions.

### 2) INTEGRITY

We operate with unwavering honesty & transparency, building lasting trust with every client and partner.

### 3) CUSTOMER FOCUS

We are committed to understanding our clients' unique challenges & providing tailored, value-driven solutions.

### 4) ETHICS

We collaborate & support one another, believing our collective strength drives the best results for our clients.





# Know The Trainer



## Gaurav Bhende

Gaurav has **22+ years of experience** in Oil & Gas, Process, Petrochemical industry. He is specialized in **Piping / Pipelines Stress Analysis** (Static and Dynamic) and Design. He has great experience in Professional Trainings. He has Presented **white papers** in international conferences including ASME conferences. He has Played a key role in establishing Stress engineering group and lead the Stress Group in Worley Parsons, Abu Dhabi and Mott MacDonald, Mumbai. He has worked with renowned organizations like Worley Parsons, Mott Mac Donald, Chemtex Global Engineering and Jacobs Engineering. Gaurav has completed his M. TECH. (Specialization in Machine Design) from VJTI, Mumbai. & Post Graduate Diploma in Piping Engineering. Gaurav is a member of 'American Society of Mechanical Engineers' & 'Institute of Engineers – India.

### Gaurav's Achievements-

First Prize winner of “Drivers of Success” competition for years (2011 & 2012) hosted by Intergraph.

Participated HxGN 2013 global conference as a speaker on topic,

“Effect of Modeling Supports with CII's Structural Module on Static and Seismic Analysis”.



[BACK TO INDEX](#)



# Who Should Do This Course?



## How We Can Help..!

This course is designed for engineers & professionals involved in the **design, analysis, & support of piping systems** across industries such as **oil & gas, petrochemical, power, marine, and process plants**. It is suitable for individuals at various stages of their career seeking practical skills in pipe stress analysis.

### 1. Mechanical / Piping Engineers

Professionals responsible for the **structural & stress evaluation of piping systems in plant design, expansion, & modifications**. The course equips them to efficiently analyse loads, thermal effects, supports, & compliance with codes.

### 2. Stress Engineers

Engineers specializing in stress analysis who need to **strengthen their technical competence** with practical CAESAR II modelling, **evaluation, & result interpretation**.

### 3. Engineering Graduates & Entry-Level Engineers

Recent graduates or early-career engineers seeking **foundational & applied knowledge** of pipe stress **principles & industry workflows** using CAESAR II.

### 4. Project Engineers / Project Leads

Professionals overseeing **piping design packages** & ensuring deliverables comply with engineering codes & client specifications.

### 5. Piping Design Managers / Technical Leads

Managers or team leads aiming to **upskill their teams** or **enhance their own understanding** of stress analysis criteria, deliverables, and software capabilities.

### 6. Contractors / EPC Engineers

Engineers working with EPC (Engineering, Procurement, & Construction) firms who require hands-on expertise to **perform contract deliverables** for stress analysis or to **review vendor/consultant submissions**.





# Who Should Do This Course?



## How We Can Help..!

### 7. QA/QC Personnel

Quality assurance & control professionals involved in **reviewing stress analysis** deliverables, **ensuring compliance with regulatory standards**, & enforcing best practices.

### 8. Consultants & Independent Analysts

Consultants who **perform third-party reviews, validation, or specialized stress assessments** for clients across multiple sectors.

### Who Will Benefit Most

- Professionals seeking career advancement in mechanical/piping/stress engineering.
- Individuals moving into roles with greater responsibility for design validation and compliance.
- Engineers preparing for industry certifications or competency assessments.
- Teams that want a common technical baseline & standardized deliverables.

### Prerequisites (Recommended but Not Mandatory)

- Basic understanding of piping design and mechanical engineering fundamentals.
- Familiarity with general engineering concepts like loads, supports, material properties, and basic statics.
- Prior exposure to any engineering software is beneficial but not required.

While CAESAR II provides powerful tools for modelling & analysing piping systems, relying solely on software outputs can be risky. Our course emphasizes a balanced approach, combining manual engineering calculations with software analysis, ensuring accuracy, reliability, & code compliance.



# Who Should Do This Course?



## Key Highlights

### Engineering Fundamentals First

- a) Understand the theory behind pipe stress, thermal expansion, sustained and occasional loads.
- b) Learn how to perform hand calculations for simple scenarios to verify software results.

### Validation of Software Outputs

- a) Learn techniques to cross-check CAESAR II outputs against manual calculations.
- b) Identify potential modeling errors, unrealistic boundary conditions, or overlooked loads.

### Develop Practical Engineering Judgment

- a) Gain the ability to interpret CAESAR II results critically, rather than accepting them blindly.
- b) Understand when software results are plausible & when corrective action is required.

### Compliance with Industry Standards

- a) Reinforce ASME code compliance by comparing hand calculations with software analysis.
- b) Ensure that deliverables meet EPC and client expectations for accuracy, safety, & professionalism.

### Enhanced Career Competence

- a) Engineers trained in both manual calculations and software validation are highly valued by employers.
- b) This dual skillset ensures the engineer can **solve complex problems independently** & confidently justify design decisions.

**Our course ensures that you not only master CAESAR II software but also retain the core engineering skills needed to validate and trust your analysis results.**





# Design Services



## About Us

With a vast experience in Static Equipment Engineering, we offer the best, cost efficient solutions to our customers. Our Engineering team is capable to deliver Design of Pressure Vessel, Heat Exchanger, Condenser, Reactor, Column, Storage Tank, and other static equipment, as per various national and international codes and standards.

The team is well experienced and trained to deliver Design as per ASME Sec VIII Div-1, Div-2, PED, ADMerk Blatter, PD5500, AS1210, GOST, TEMA, API 660, API 650, API 620, IBR, EN13445, etc.

We have successfully completed many ASME U-stamp audits and worked on hundreds of U-stamp vessels closely with many certifying agencies.

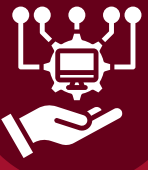


[BACK TO INDEX](#)





# Training Services



## About Us

Our training program offers a unique and professional platform for engineers to master their skills to meet the demanding requirements of industries. As an Authorized Training Provider for ASME, we stand firmly behind our mission: “**No one can decode the code like us.**” This expertise is rooted in our deep understanding of various national and international standards, delivered by **seasoned industry veterans** who are currently active in their fields to bridge the gap between theory and real-world application.

Drawing on extensive multi-disciplinary expertise, we provide **comprehensive** courses tailored to the rigorous demands of today’s market. In a remarkably short time, our **commitment to excellence** has established us as the most trusted and preferred training partner for leading corporations and ambitious individuals globally.



[BACK TO INDEX](#)





# Corporate Training



## Onsite Corporate Trainings

We have been instrumental in developing the manpower for organizations through our onsite training under our corporate training program. These training have helped the corporates to develop the skills and knowledge of their resources and as a result increase the output with better and optimized design of equipment.





# Our Customers



Our Corporate Customers

We have been instrumental in developing the workforce for organizations through our onsite training under our corporate training program. These training has helped the corporates to develop the skills & knowledge of their resources & as a result increase the output with better & optimized design of equipment.



BACK TO INDEX





# Our Track Record



## How We Have Been Doing..!



100+

Corporate Customers



4000+

Satisfied Trained Individual  
Online & Offline Combined



20+

Countries With Beneficiaries  
Across The Globe

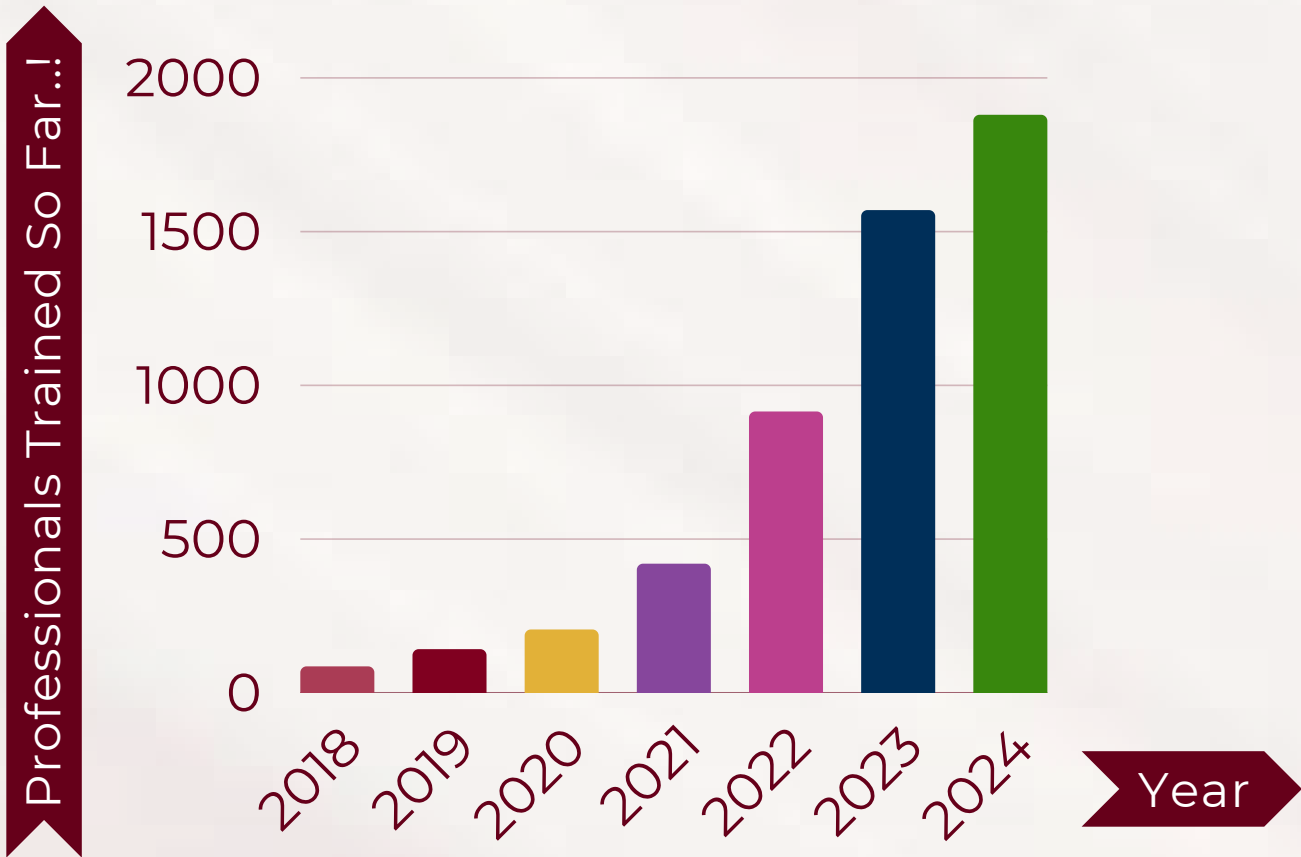


0-28

Experience Range Of  
Engineers Trained



## Over The Year...!



## Beneficiaries Across The Globe



BACK TO  
INDEX



# About Training Platform



Mobile & Laptop/ Desktop

Expert and Professional training available at your convenience, with our Mobile & Desktop application.



WATCH FREE LECTURE VIDEOS



GET IT ON  
Google Play





Download on the  
App Store



PLAYSTORE



IOS APP  
use organization code [yatgi](#)



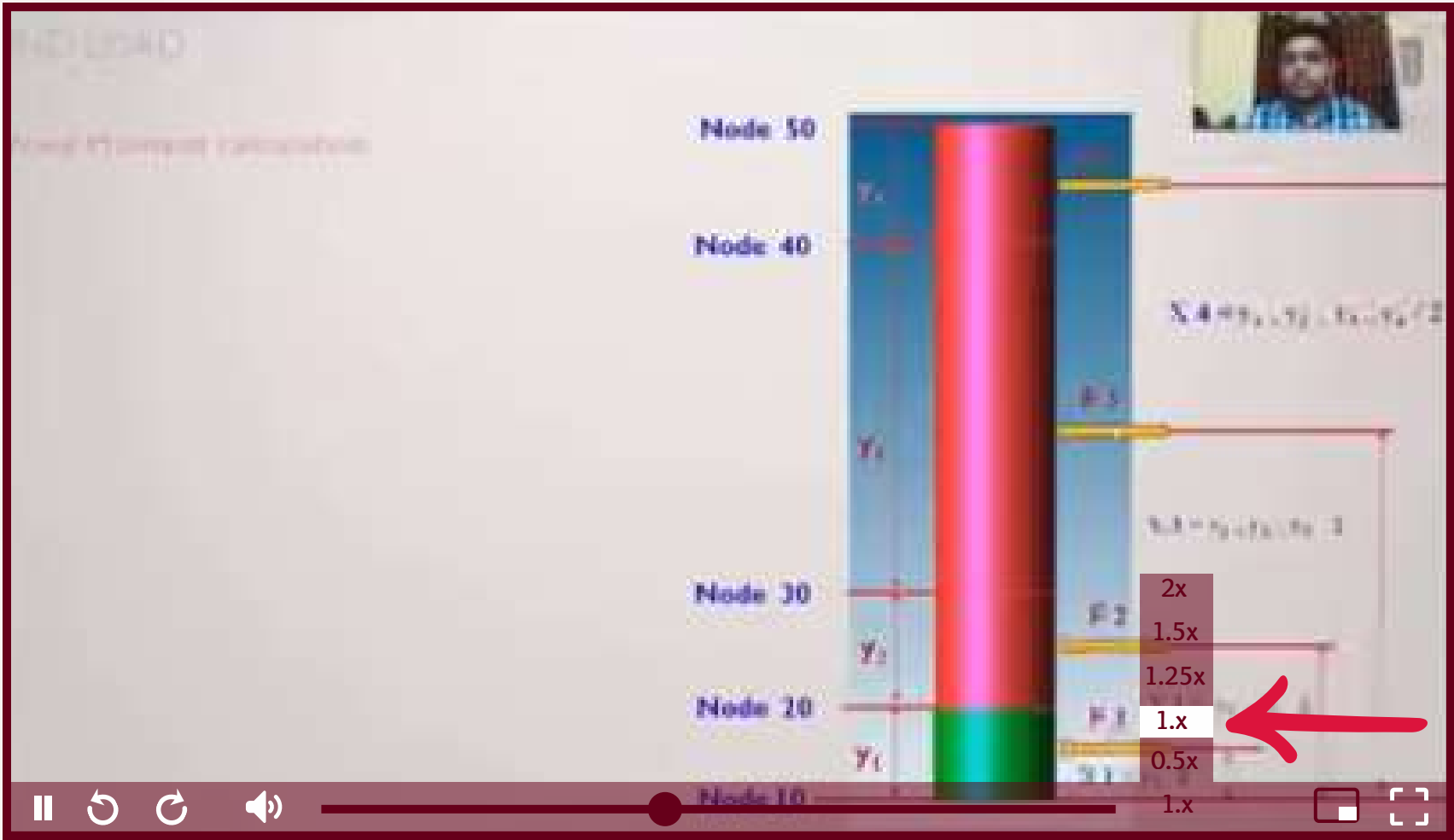


# About Training Platform

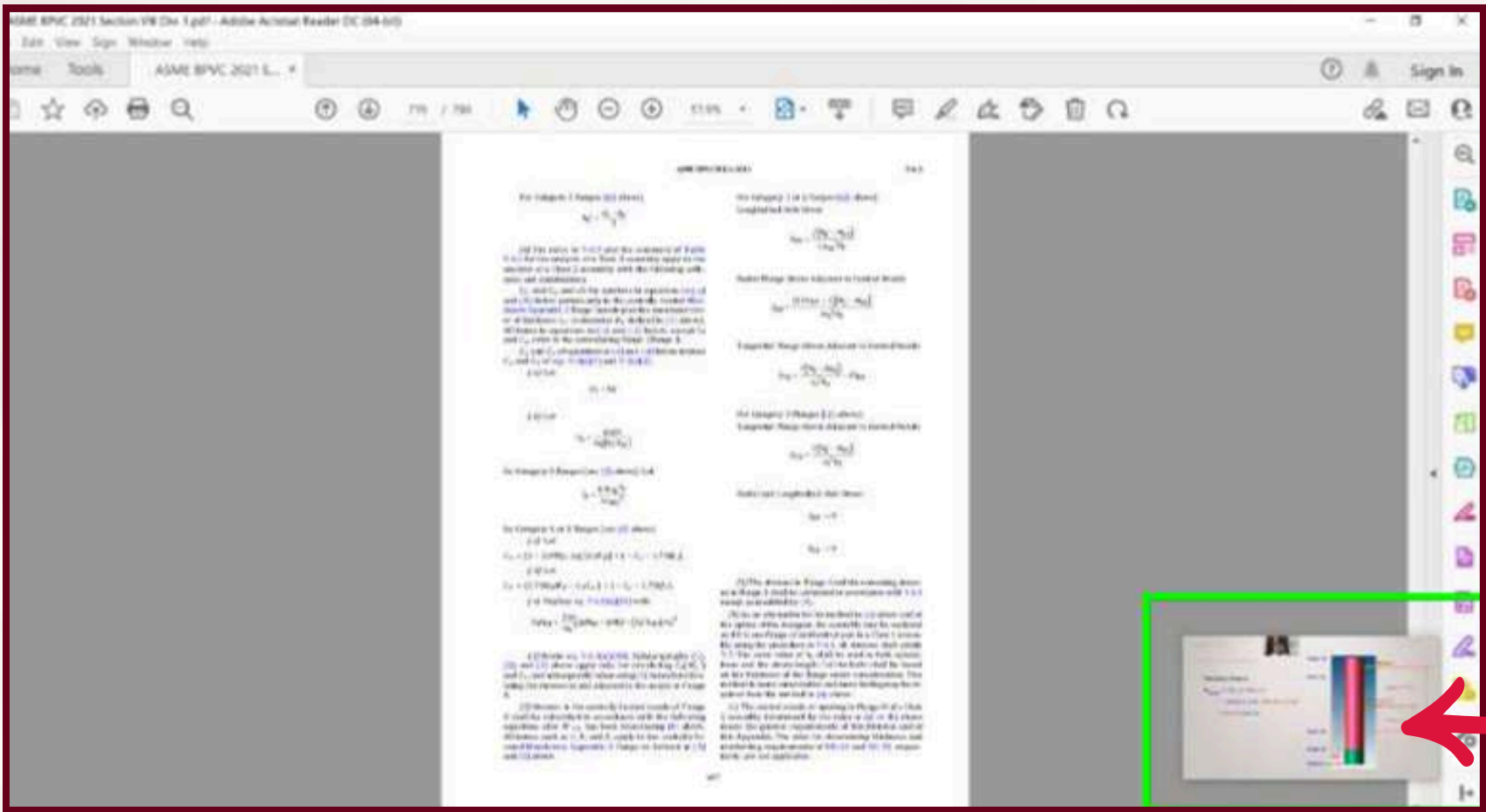


Special Features

It has never been so convenient to learn...! Check out some special features of our Training Platform. Adjust video speed from 0.5x to 2x to suit your requirement.



PIP mode enables you to work or practice simultaneously while watching the lectures.



# Advantages Over Offline Courses



## Benefits Of Online Training

Offline

Online

No more compromise on work or personal schedule

Getting late for the class. **Need to rush** or I'll miss the lecture.



I can **save travelling time** and **avoid stress** by watching lectures online **as per my convenience**.



Get answers on the go...!

I am stuck in the Project. But this topic is scheduled after 4 weeks in the live class. **How can I solve it now?**



I was stuck..! But I **just watched this topic online** and bingo..! **the problem is solved**. I simply love this platform.



Live Q&A session every week

The Classes are over. **Whom can I ask** the questions now?



My Course **validity is 18 months**. Also the **live Q&A session is twice a week**. I can get all the answers.



BACK TO INDEX





# Advantages Over Offline Courses



Benefits Of Online Training

Offline

Online

## Never Miss Out On Any Lectures

I **missed** the last lecture, now I **cannot understand** this...!



This is so cool..! I can **watch any lecture anytime**.



## Learn At Your Own Pace

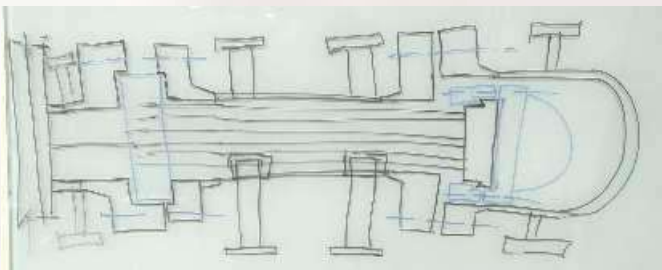
He is teaching **so fast**. It is **very difficult to understand**...!



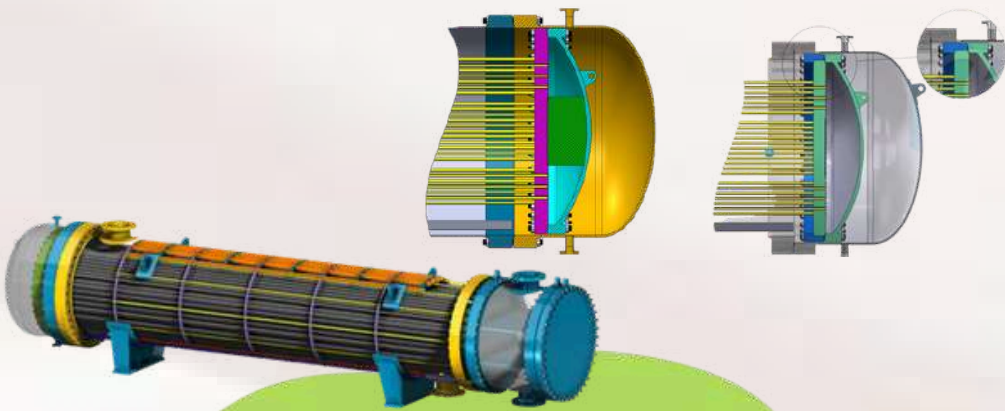
I can **speed up or speed down** the lecture videos as per my convenience.



## No Disturbances | Video Lectures | Animations



This is so **disturbing**...! **Not able to visualize** the concept with these 2d hand sketches



Such **easy to understand** demonstrations with **3d animations** help me to visualize and clear my concepts..!



BACK TO INDEX

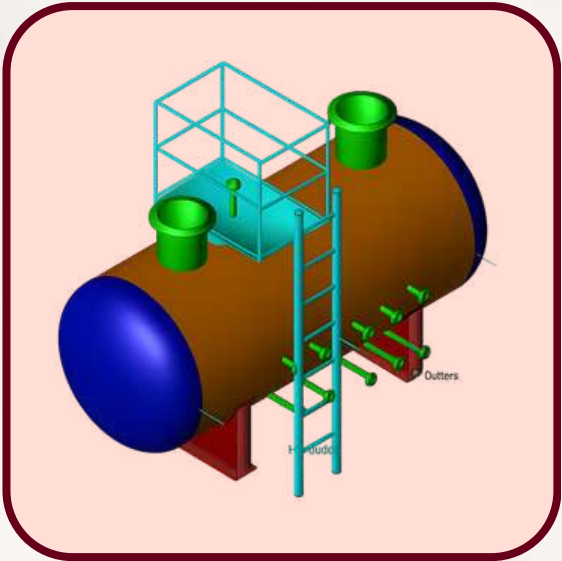




# Our Other Courses



## STATIC EQUIPMENT DESIGN



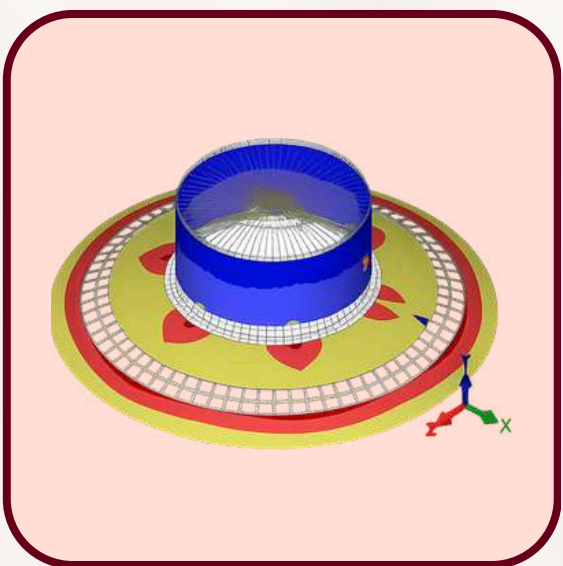
PRESSURE VESSEL  
DESIGN (DIV 1) 



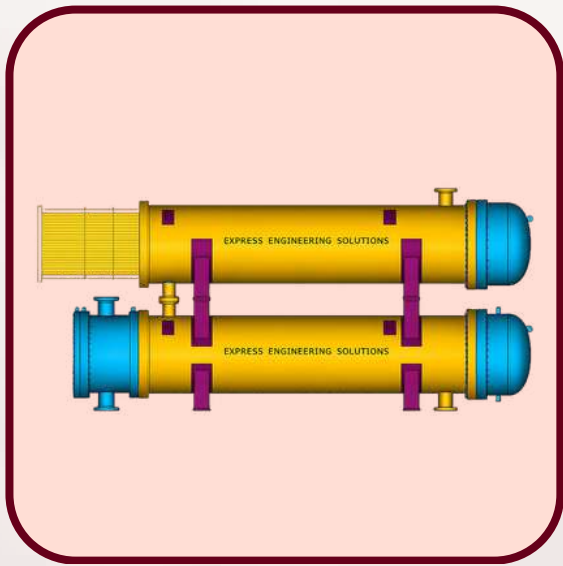
PRESSURE VESSEL  
DESIGN (DIV 2) 



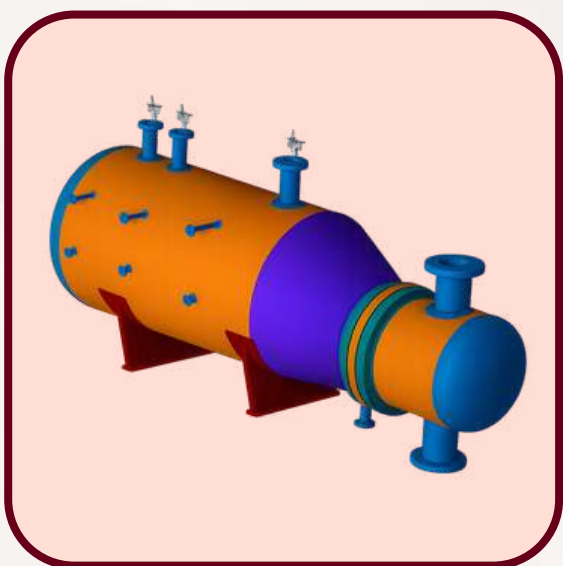
PREMIUM COMBO 



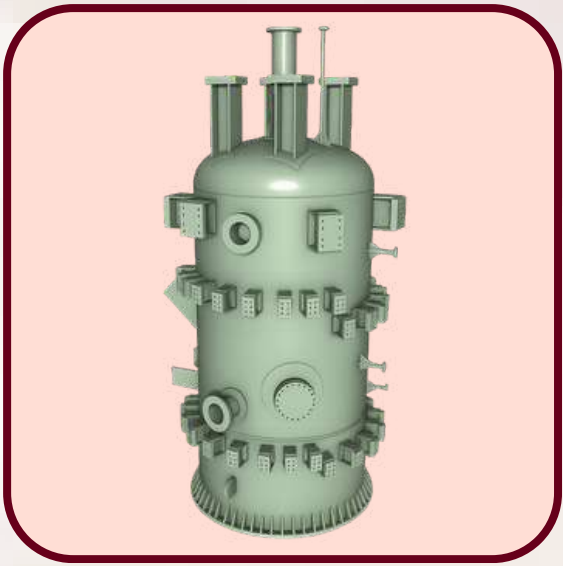
NOZZLE PRO FEA 



HEAT EXCHANGER  
DESIGN 



PV ELITE  
SOFTWARE 



DIV 1 & DIV 2  
COMBO 



BACK TO  
INDEX





# Our Other Courses



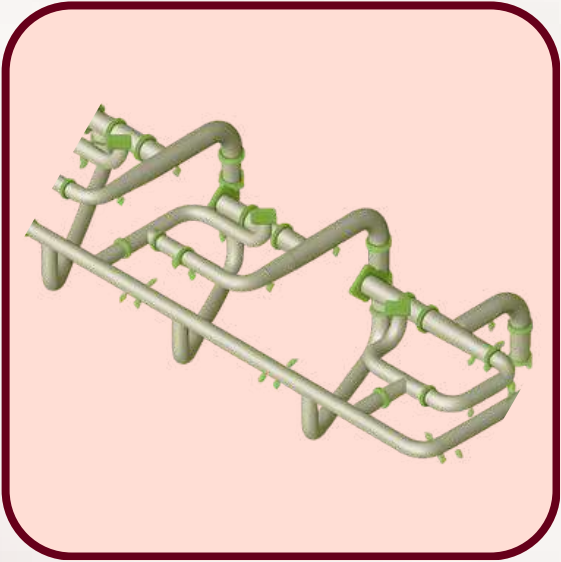
## ASME AUTHORIZED COURSE



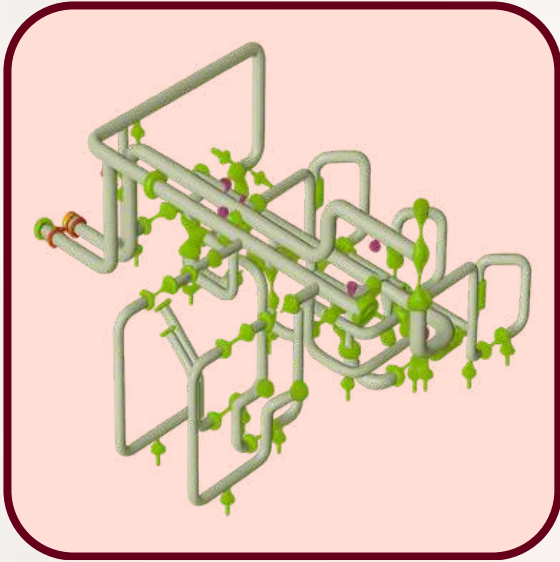
ASME PD442 



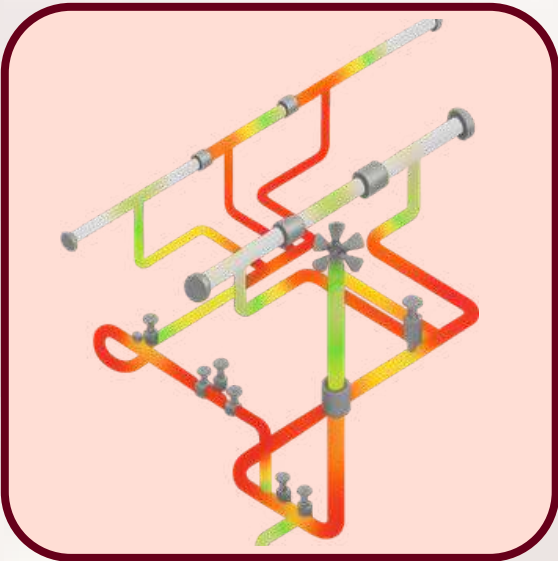
## PIPE STRESS ANALYSIS



BASIC PIPE STRESS ANALYSIS 



ADVANCE PIPE STRESS ANALYSIS 



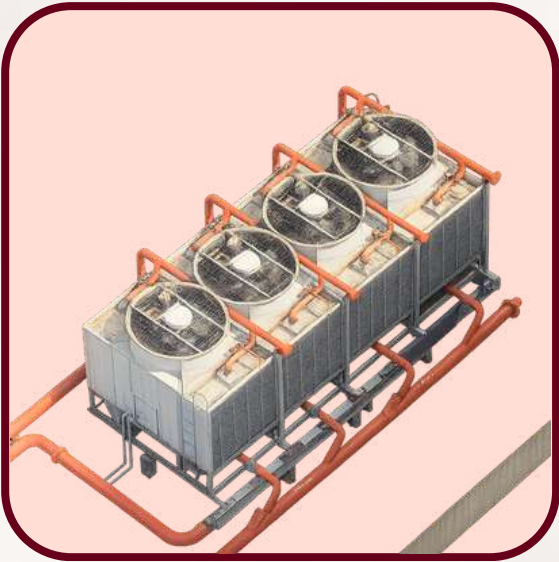
COMBO PIPING & PIPELINE STRESS ANALYSIS 



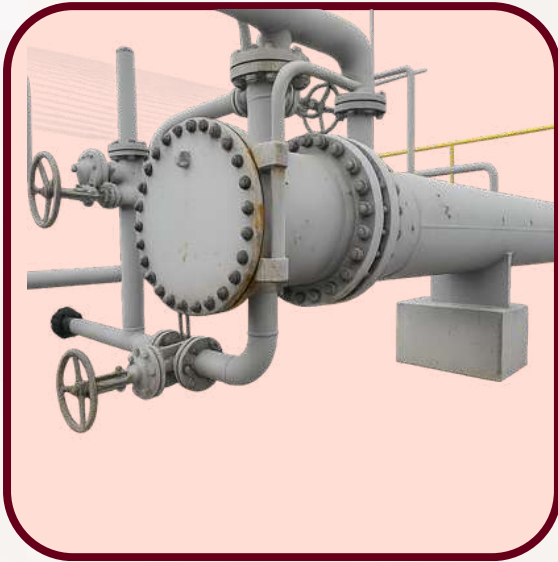
# Our Other Courses



THERMAL DESIGN



AIR-COOLED  
HEAT EXCHANGER  
(ACHE) 



SHELL & TUBE  
HEAT EXCHANGER  
(STHE) 



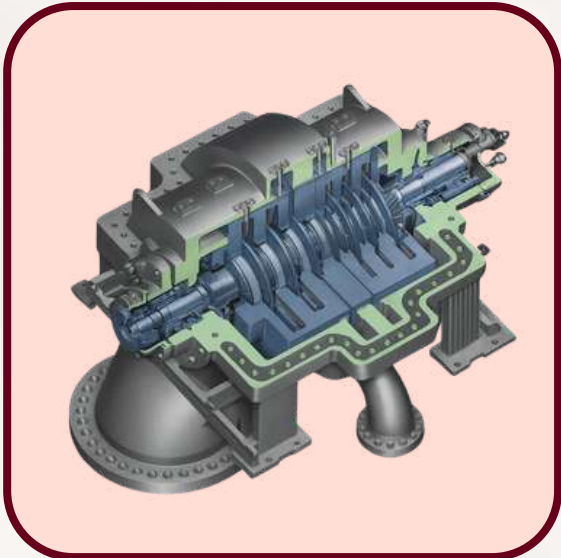
THERMAL DESIGN  
COMBO  
(STHE & ACHE) 



# Our Other Courses



## ROTARY EQUIPMENT DESIGN



CENTRIFUGAL  
COMPRESSOR 



CENTRIFUGAL PUMPS  
IN OIL & GAS  
INDUSTRY 



ROTARY EQUIPMENT DESIGN  
COMBO 



BACK TO  
INDEX



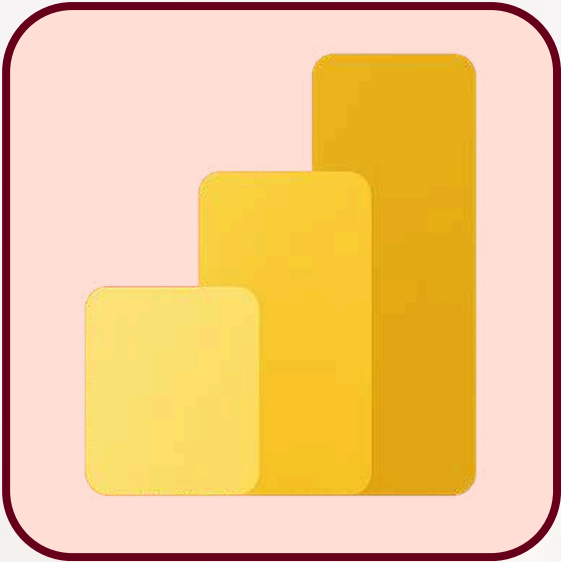
# Our Other Courses



OTHER COURSES



MS EXCEL 



POWER BI 



GD&T (BASIC) 



GD&T (ADVANCE) 



BACK TO  
INDEX





# Contact Us



[expressengineeringsolutions.com](http://expressengineeringsolutions.com)



+91 9921229232 / 7500507040



[training@express-engg.com](mailto:training@express-engg.com)



**PUNE**

Sargam Tower, 1<sup>st</sup> & 2<sup>nd</sup> Floor,  
Survey No - 43/1-9, Behind Girija  
Hotel, DP Road, Near Rajaram  
Bridge, Karvenagar, Pune - 411 052



**SURAT**

348, Green Palladia, Opposite Raj World,  
Near Gaurav Path Road, Palanpore,  
Surat, Gujarat - 395009



SCAN FOR  
WEBSITE 



CLICK FOR  
WEBSITE 

